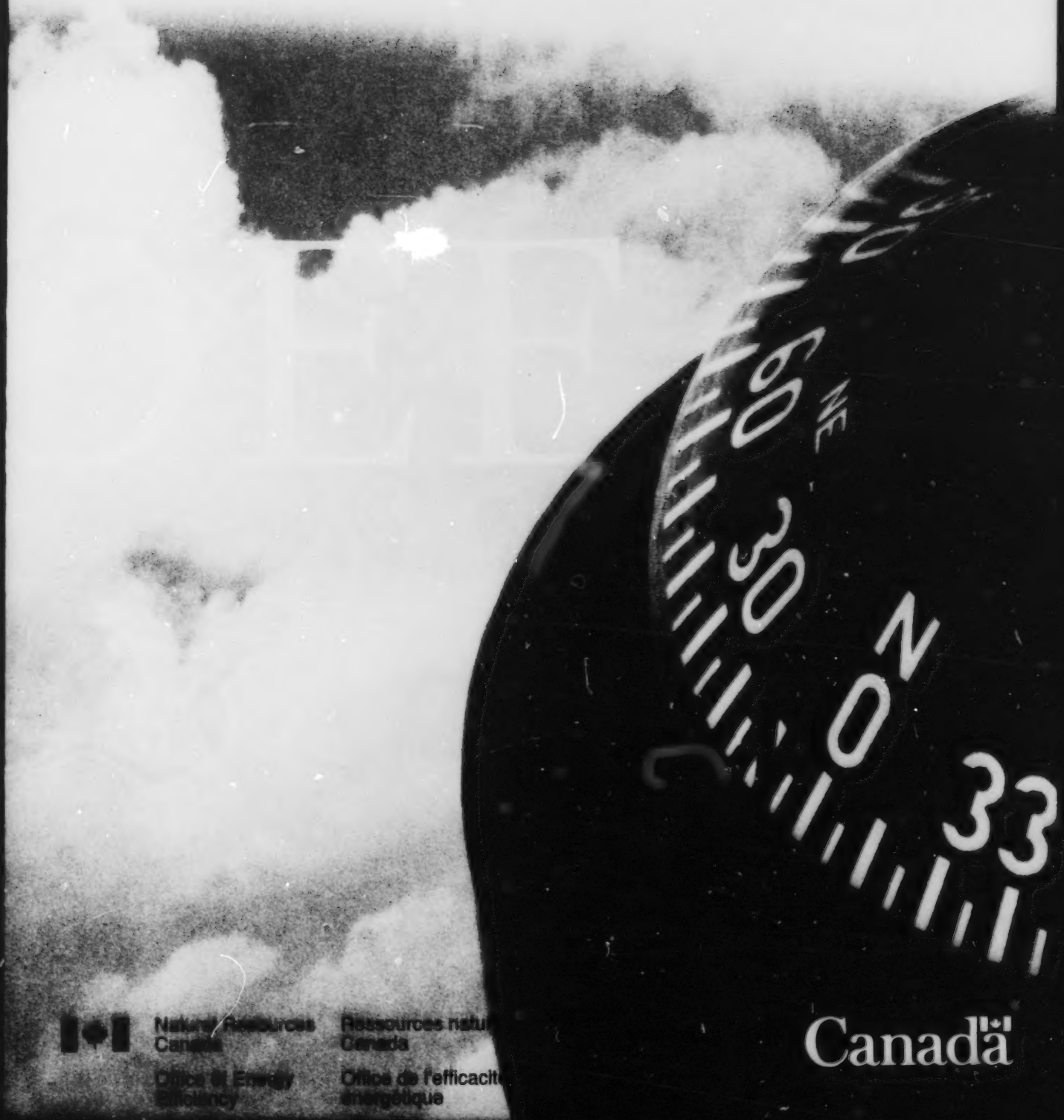
OEE

Office of Energy Efficiency

Business Plan 2000-2001



Natural Resources Canada
Office of Energy Efficiency

Ressources naturelles Canada
Office de l'efficacité énergétique

Canada

Published by the authority of the Minister of Natural Resources Canada

Design
Carisse Graphic Design

To obtain additional copies of this publication, please write to

Energy Publications
Natural Resources Canada
Office of Energy Efficiency
c/o DLS
Ottawa ON K1A 0S9
Fax: (819) 994-1498

© Her Majesty the Queen in Right of Canada, 2000

Cat. No. M92-177/2000E
ISBN 0-662-29665-6

Printed on
recycled paper

Aussi publié en français sous le titre :
OEE – Plan d'activités, 2000-2001

102-03160/

Table of Contents

Page

Executive Summary i

Foreword iii

Chapter 1 Overview of the Office of Energy Efficiency

1.1 Background 1

1.2 Mandate 1

1.3 Mission, Strategic Objective and Vision 2

1.4 Role in Limiting Greenhouse Gas Emissions 2

1.5 Management Priorities 4
1.5.1 To help develop the National Implementation Strategy on Climate Change 4
1.5.1.1 The OEE's work with Climate Change Issue Tables and the AMG 4
1.5.1.2 Climate Change Action Fund and Public Education and Outreach 4
1.5.1.3 Preparing for the National Implementation Strategy 5
1.5.1.4 Voluntary Challenge and Registry (VCR) Inc. 5
1.5.2 To ensure that its programs are contributing to the reduction of GHG emissions 5
1.5.3 To integrate its planning, budgeting and performance-measurement management systems 5
1.5.4 To determine the extent to which it is possible to estimate the impact of its market transformation programs in terms of energy savings and GHG emissions 5
1.5.5 To review its partnership arrangements for program delivery 6
1.5.6 To develop recommendations on federal energy efficiency programs to cover all energy use in Canada 6

1.6 Business Lines 6
1.6.1 Market Transformation Programs 6
1.6.2 Corporate Communications 7
1.6.3 Policy Advice, Analysis, Information and Data 7

1.7 Business Units 10

1.8 Organization 10
1.8.1 Divisions and Corporate Groups 10
1.8.2 National Advisory Council on Energy Efficiency 12

1.9 Financial Resources 12

Chapter 2 Planning Context

2.1 Introduction 13

2.2 Departmental and Sectoral Planning Framework 13
2.2.1 NRCan Planning Framework 13
2.2.2 Energy Sector Planning and Performance Framework 13
2.2.2.1 Energy Sector Mission 13
2.2.2.2 Energy Sector Priorities 13

2.3 Clients and Partners 13

2.4 Business Environment 13
2.4.1 Climate Change and Canada's International Commitments 14
2.4.2 Energy Prices 14
2.4.3 The Economy 14
2.4.4 Energy Efficiency Activities Among Traditional Partners 14
2.4.5 Federal Budget 2000 14

Chapter 3 Energy Sector Strategies

3.1 The Energy Market 17

3.2 OEE Programs and Policy Instruments 17

3.3 Residential Sector 17
3.3.1 Context 17
3.3.2 OEE Strategies 18
3.3.2.1 Energy-Using Equipment 18
3.3.2.2 Housing Construction 19
3.3.2.3 Home Renovations 19

3.4 Commercial and Institutional Sector 19
3.4.1 Context 19
3.4.2 OEE Strategies 20
3.4.2.1 Energy-Using Equipment 20
3.4.2.2 Building Construction 20
3.4.2.3 Voluntary Initiatives 20

3.5 Industrial Sector 21
3.5.1 Context 21
3.5.2 OEE Strategies 21
3.5.2.1 Energy-Using Equipment 21
3.5.2.2 Voluntary Action 22

3.6 Transportation Sector 22
3.6.1 Context 22
3.6.2 OEE Strategies 23
3.6.2.1 New Vehicles 23
3.6.2.2 Vehicle Operation and Maintenance 23
3.6.2.3 Road Transportation Fuels 23

Chapter 4 Resources and Budget Allocation

4.1 Financial Resources 25

4.2 Budget Allocation by Business Line, Business Unit and Energy Use Sector 25

4.3 Budget Allocation by Business Activity 28

4.4 Human Resources 32

Chapter 5 Assessing Performance

5.1 Introduction 33

5.2 Activities in 2000–2001 33

5.3 Performance Plans 34

Annexes

Annex 1. Historical Overview 35

Annex 2. Planning Context 39

Annex 3. Performance Plans of OEE Programs 45

List of Tables

Table A. OEE Budget by Business Line, 2000–2001 26

Table B. OEE Budget by Business Unit, 2000–2001 26

Table C. Expenditures 1999–2000 and Budget 2000–2001 by Business Activity 28-30

Table D. Reallocation of Resources Across Business Activities, 1999–2000 to 2000–2001 30-31

List of Figures

Figure 1. Strategies to Address GHG Emissions 2

Figure 2. OEE's Role in Addressing GHG Emissions 3

Figure 3. Canada's Total Energy Use, 1998 3

Figure 4. Organization Chart 11

Figure 5. Canada's GHG Emissions from End-Use Energy, 1998 27

Figure 6. OEE Budget – Market Transformation Programs by End-Use Energy Sector 27

Figure 7. Departmental Financial Commitment for Energy Efficiency and Alternative Energies Combined, 1974–75 to 1994–95 36

Executive Summary

The Office of Energy Efficiency (OEE) was established as part of Natural Resources Canada (NRCan) with a mandate to renew, strengthen and expand Canada's commitment to energy efficiency in order to help address the challenges of climate change with specific emphasis on the Kyoto Protocol. The OEE commenced operations on April 1, 1998.

The OEE brings NRCan's non-R & D energy efficiency and alternative transportation fuels (ATFs) programs together under a single organization with a strong, central corporate image and a comprehensive information dissemination strategy to actively promote improved energy performance.

The OEE's mission statement, strategic objective and vision statement are:

To advance the government's economic and environmental objectives through the promotion of more efficient and sustainable energy use in all sectors of the economy.

To limit greenhouse gas emissions and improve the competitiveness of the Canadian economy through increased energy efficiency and the use of alternative transportation fuels.

Leading Canadians to Energy Efficiency at Home, at Work and on the Road.

The OEE conducts its activities through three business lines.

1. Market Transformation Programs
To encourage and assist Canadians to improve their energy use through five policy instruments:

Leadership – to increase energy efficiency in federal operations.

Information – to advise energy users of efficiency opportunities.

Targeted Voluntary Programs – to encourage manufacturers of energy-using equipment and major energy users to commit to improving energy efficiency.

Fiscal Incentives – to encourage the use of energy-efficient technologies and practices.

Regulations – to eliminate inefficient products from the market.

2. Corporate Communications
To provide Canadians with information on energy efficiency, transportation fuels and climate change, and to inform them that the OEE is a centre for energy efficiency knowledge, programs and advice.

3. Policy Advice, Analysis, Information and Data
To assist public policy decision making on energy efficiency and transportation fuels.

About 80 percent of Canada's total greenhouse gas (GHG) emissions are in the form of carbon dioxide (CO_2), mostly generated by the use fossil fuels. The OEE's programs are geared to all energy-use sectors except agriculture and energy production. They address about 70 percent of Canada's energy use and about 56 percent of Canada's GHG emissions.

The OEE seeks to transform the Canadian market for energy by increasing the efficiency of energy-using equipment, buildings, processes and vehicles, and by improving the energy-efficient use of these structures and machines. Canadians spent more than $81 billion in 1998 on "final" energy use – namely, energy used to heat and cool their homes and offices, to operate their appliances, cars, trucks, planes and trains, and to power industrial processes. This represents about nine percent of Canada's gross domestic product.

The OEE's programs emphasize the benefits of partnerships and economic investment; all, except the ATF programs, are fuel-neutral. They aim to overcome the barriers of inadequate information and knowledge, institutional deterrents, and financial and economic constraints in the energy end-use market.

Progress indicators have been developed to monitor the performance of each program initiative and to guide modifications. The OEE also surveys and analyzes changes in the marketplace to measure progress in improving energy efficiency in each end-use sector and to identify further opportunities for improvements.

As a result of its standards and standards-development processes, information mechanisms and partnership networks, the OEE's initiatives provide a strong basis for developing additional measures.

The government allocated $36 million to the OEE for fiscal year 2000–2001, comprised of two parts:

- $18 million in "A Base" funds. These can be reallocated by the OEE among its programs in order to improve overall effectiveness in achieving its strategic objective.
- $18 million in "sunset" funds for programs dealing with commercial and residential energy efficiency. This funding is scheduled to cease March 31, 2004.

The OEE allocates its resources across energy-use sectors based on the following principles:

- to pursue the most economic opportunities for increasing energy efficiency (i.e. to maximize the amount of energy saved per dollar invested);
- to be involved in all energy use sectors, so as to establish a strong foundation for realizing the Kyoto target (which likely will require contributions from all parties);
- to respect federal jurisdiction (e.g. recognizing its lack of authority to regulate the energy use of buildings or industrial processes); and
- to respect any conditions associated with "sunset" funding.

The OEE has six management priorities for 2000–2001:

- Help develop the National Implementation Strategy on Climate Change.
- Ensure that its programs are contributing to the reduction of GHG emissions.
- Integrate its planning, budgeting and performance-measurement management systems.
- Determine the extent to which it is possible to estimate the impact of its market transformation programs in terms of energy savings and GHG emissions.
- Review its partnership arrangements for program delivery.
- Develop recommendations on federal energy efficiency programs to cover all energy use in Canada.

Foreword

The Office of Energy Efficiency (OEE) was established as part of Natural Resources Canada (NRCan) with a mandate to renew, strengthen and expand Canada's commitment to energy efficiency in order to help address the challenges of climate change with specific emphasis on the Kyoto Protocol.

This document constitutes the OEE's Business Plan for 2000–2001.

This document is first and foremost a management and internal communications instrument for the employees of the OEE. It is also a communications product to inform stakeholders about the OEE and where it is going.

The Plan's contents are as follows:

- Chapter 1 – background, mandate, mission, strategic objective, vision, management priorities, business lines and units, organizational structure and financial resources.
- Chapter 2 – the key planning elements which shape the OEE's pursuit of its mission.
- Chapter 3 – strategies in each energy-use sector.
- Chapter 4 – financial resources, budget allocation and human resources development plan.
- Chapter 5 – how the OEE assesses its performance.

For more information, readers are invited to consult the OEE's Web site (http://oee.nrcan.gc.ca) or other documents produced by the OEE, which explain in greater detail the programs, progress to date and developments in end-use energy markets. Other documents include:

- *The State of Energy Efficiency in Canada – OEE Report – October 2000;*
- *Energy Efficiency Trends in Canada, 1990 to 1998: A Review of Secondary Energy Use, Energy Efficiency and Greenhouse Gas Emissions – October 2000: and*
- *Improving Energy Performance in Canada – Report to Parliament under the Energy Efficiency Act,* 1997–1999.

Chapter 1. Overview of the Office of Energy Efficiency

This chapter provides background information on the OEE and describes its mandate, mission, strategic objective, vision, management priorities, business lines and units, organizational structure and financial resources for the fiscal year 2000–2001.

1.1 Background

The OEE follows a long history of organizations and programs at NRCan that promoted energy conservation, energy efficiency and alternative sources of energy as a means of protecting the environment, enhancing security of energy supply, and strengthening Canada's economic competitiveness. Annex 1 (page 35) presents an historical overview of developments since the early 1970s. The creation of the OEE, however, is more closely related to the emergence of the climate change issue during the 1990s.

In June 1992, Canada and more than 150 other countries signed the *United Nations Framework Convention on Climate Change* at the *United Nations* Conference on Environment and Development in Rio de Janeiro, Brazil. The Convention includes a commitment to stabilize greenhouse gas (GHG) emissions at 1990 levels by the year 2000. Pursuant to the Rio Conference and the Berlin Conference (1995), the Parties to the *United Nations Framework Convention on Climate Change* held their third conference in Kyoto, Japan, in December 1997. Participating countries agreed to a timetable of emissions reduction from 1990 levels to be reached between 2008 and 2012. Canada pledged to reduce its emissions by six percent below 1990 levels by that time period.

At a federal–provincial conference of First Ministers held later in December 1997, energy and environment ministers were asked to develop a new strategy to meet the Kyoto Protocol targets. The National Climate Change Secretariat was established by the ministers to coordinate this work and to support the development of a national implementation strategy to meet the Kyoto targets. Increasing energy efficiency is a key component of Canada's response to the Kyoto challenge. It was in this context that Natural Resources Minister Ralph Goodale announced the creation of the OEE.

1.2 Mandate

The OEE was established as part of NRCan with a mandate to renew, strengthen and expand Canada's commitment to energy efficiency in order to help address the challenges of climate change with specific emphasis on the Kyoto Protocol. The OEE officially commenced its operations on April 1, 1998.

The OEE brings NRCan's non-R & D energy efficiency and alternative transportation fuels (ATFs) programs together under a single organization with a strong, central corporate image and a comprehensive information dissemination strategy to actively promote improved energy performance. In addition to delivering 16 market transformation programs, the OEE's responsibilities include:

- modifying its existing programs (based on current funding) to increase their effectiveness or efficiency;
- developing new measures (requiring additional funding) to increase the impact and reach of market transformation programs;
- reporting annually on the state of energy efficiency in Canada and communicating up-to-date energy efficiency information through its publications and Web site;
- organizing Canada's Energy Efficiency Conference; and
- managing Canada's Energy Efficiency Awards to recognize achievements in energy efficiency projects and programs.

1.3 Mission, Strategic Objective and Vision

The OEE's mission statement is:

To advance the government's economic and environmental objectives through the promotion of more efficient and sustainable energy use in all sectors of the economy.

The OEE's strategic objective is:

To limit greenhouse gas emissions and improve the competitiveness of the Canadian economy through increased energy efficiency and the use of alternative transportation fuels.

In April 1998, OEE employees and management adopted the following vision statement:

Leading Canadians to Energy Efficiency at Home, at Work and on the Road

1.4 Role in Limiting Greenhouse Gas Emissions

Figure 1 presents Canada's five strategies to address GHG emissions. The OEE is involved in three of these – it is primarily concerned with energy efficiency measures, but also encourages some fuel switching (through ATFs) and energy conservation.

FIGURE 1: Strategies to Address GHG Emissions

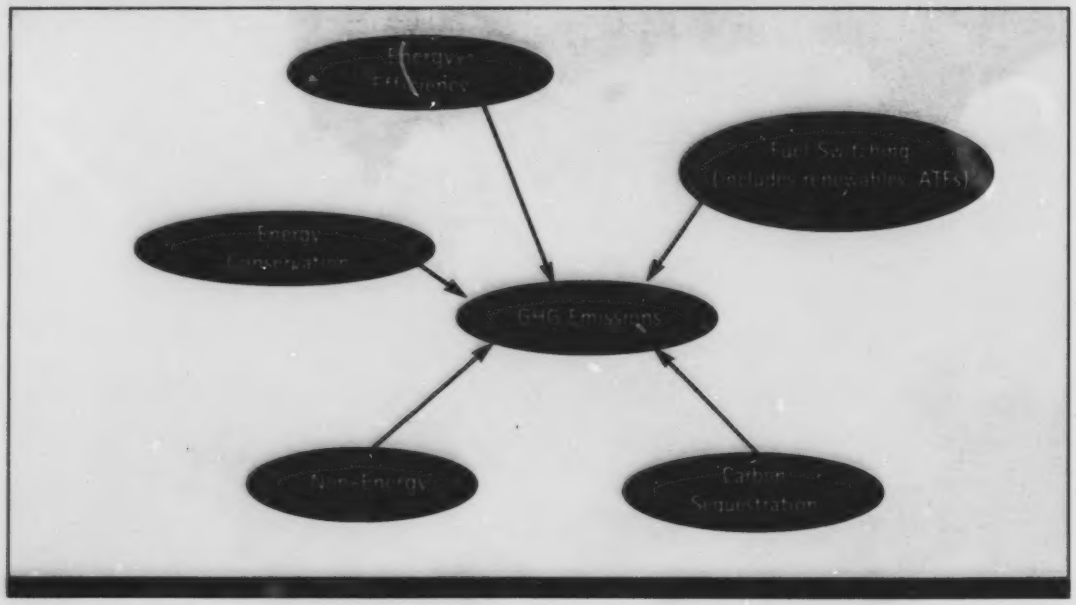


Figure 2 provides another perspective on the OEE's role in reducing GHG emissions. About 80 percent of Canada's total GHG emissions are in the form of CO_2, mostly generated by the use of fossil fuel energy. These CO_2 emissions can be reduced by improving energy efficiency and switching to less carbon-intensive energy sources (renewable energy and ATFs). The OEE's mandate covers energy efficiency and ATFs by final energy users, often referred to as secondary energy use. Secondary energy use represents about 70 percent of all energy use.

FIGURE 2. OEE's Role in Addressing GHG Emissions

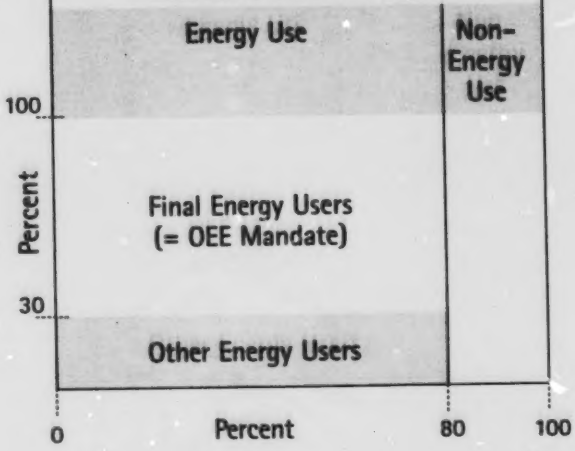


FIGURE 3. Canada's Total Energy Use, 1998 (10,875 PJ)

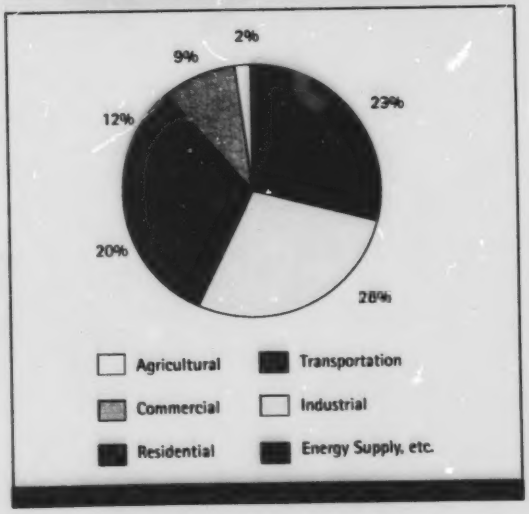


Figure 3 presents the energy-use sectors in Canada by share of total energy use. The OEE's programs are geared to all sectors except agriculture and "energy supply, etc.," which largely involves energy production. (oil, gas, coal), transformation (electricity generation) and transportation (pipelines, electricity transmission lines).

1.5 Management Priorities

The OEE has six management priorities for 2000–2001:

- to help develop the National Implementation Strategy on Climate Change
- to ensure that its programs are contributing to the reduction of GHG emissions
- to integrate its planning, budgeting and performance-measurement management systems
- to determine the extent to which it is possible to estimate the impact of its market transformation programs in terms of energy savings and GHG emissions
- to review its partnership arrangements for program delivery
- to develop recommendations on federal energy efficiency programs to cover all energy use in Canada

1.5.1 To help develop the National Implementation Strategy on Climate Change

The OEE makes a substantial contribution to the National Climate Change Process (NCCP) through its involvement with the Issue Tables, the Analysis and Modelling Group (AMG) and climate change activities related to public education and outreach.

1.5.1.1 The OEE's work with Climate Change Issue Tables and the AMG

Issue Tables, the cornerstone of the NCCP, were created in 1998 to consult Canadians and develop possible options for addressing climate change. Issue Tables provided expert and detailed input into the analysis, identification and assessment of GHG reduction opportunities. Each Issue Table was responsible for developing option papers on its specific sector or issue. The recommended measures are the basis for the National Implementation Strategy on Climate Change, to be delivered to federal energy and environment ministers in the fall of 2000. The OEE participated in five of the 15 Issue Tables established under the NCCP (Buildings, Municipalities, Industry, Transportation, and Public Education and Outreach) by providing a secretariat function and by serving as sponsor or co-chair for three Tables.

The OEE participates in the work of the AMG, which was created by the National Air Issues Coordinating Committee – Climate Change (NAICC–CC). The AMG operates as a task group to ensure that the analytical needs of the NCCP are met. It reports to the NAICC–CC through its co-chairs and operates in an open and transparent manner in addressing data, analytical and modelling issues.

It is necessary to have consistency and comparability of results from individual elements, as well as "roll up" analyses and modelling of the combined impact, costs and benefits of various options. This work will provide ministers with a sound understanding of the options available to meet Canada's commitment to the Kyoto Protocol; it will also present the economic, social and environmental implications of the options for all sectors and regions.

The AMG will continue to be very active in 2000–2001. It will:

- review analytical and modelling results from the Issue Tables; and
- carry out "roll up" analysis.

1.5.1.2 Climate Change Action Fund and Public Education and Outreach

The Director General of the OEE jointly leads the public outreach aspect of the Climate Change Action Fund (CCAF) with Environment Canada. The CCAF was established to build a foundation for the National Implementation Strategy on Climate Change and to initiate early action to reduce emissions. The public outreach portion of the fund provides $60 million over six years to build public awareness and understanding of climate change, and to encourage Canadians to take action to reduce GHG emissions and adapt to climate change. During the fiscal year 1998–99, OEE staff members participated in the development of the business plan, funding criteria and operational guidelines. More than 100 proposals were given consideration for funding. The OEE's involvement is expected to continue through the fiscal year 2000–2001.

The OEE also shares the lead with Environment Canada in the design and implementation of a strategy for the Government of Canada to begin the task of building awareness and understanding of the importance of climate change. In the fiscal years 1998–99 and 1999–2000, the OEE assumed a lead role in advertising

activities, developing climate change information materials, providing a toll-free telephone number and creating a climate change Web site. This work is expected to continue throughout the fiscal year 2000–2001.

1.5.1.3 Preparing for the National Implementation Strategy

The OEE anticipates that it will be called upon to play a key role as the National Implementation Strategy on Climate Change unfolds, including designing and implementing federally funded measures. During the next two years, the OEE will prepare for and undertake the organizational adjustments needed (in terms of strategies, program initiatives, management and information systems, personnel, etc.) to develop and implement the strategy.

1.5.1.4 Voluntary Challenge and Registry (VCR) Inc.

NRCan's Minister is the champion for the Voluntary Challenge and Registry (VCR) Inc., a key element of Canada's National Action Plan on Climate Change. VCR Inc. was launched in 1995 by federal, provincial and territorial energy and environment ministers to encourage private- and public-sector organizations to voluntarily limit their net GHG emissions. It was incorporated in October 1997 as a stand-alone, not-for-profit organization under the name VCR Inc. to strengthen the public–private partnership and to give the private sector more ownership of the program. A third of its board of directors comprise government representatives appointed by the federal Minister of Natural Resources. The deputy ministers of NRCan and Environment Canada are members of the board.

Several OEE programs, including the Energy Innovators Initiative and the Industrial Energy Efficiency Initiative, cooperate with VCR Inc. to encourage voluntary energy efficiency measures. In addition, the OEE coordinates the yearly production of *Emission Reductions from Federal Operations*, the Government of Canada's report to VCR Inc. on its activities to reduce its GHG emissions.

In January 2000, federal, provincial and territorial energy and environment ministers announced an agreement to establish a Baseline Protection Initiative (BPI) under the National Implementation Strategy on Climate Change, with VCR Inc. and ÉcoGESte serving as registries for the initiative.

1.5.2 To ensure that its programs are contributing to the reduction of GHG emissions

The Auditor General has recommended that the OEE explicitly link its program performance to the government's GHG emissions limitation goal (i.e. the Kyoto target). In light of this recommendation, and the OEE's revised strategic objective to limit GHG emissions, it is important tc ensure that OEE programs are clearly focussed on GHG emission reductions as well as on energy and financial savings. The OEE will review the possible implications of such a focus, and will adjust its strategies and operations where appropriate.

1.5.3 To integrate its planning, budgeting and performance-measurement management systems

The OEE has been working for several years on improvements to its planning, budgeting and performance-measurement systems, including reporting on performance. In late 1999, the OEE management committee decided to integrate these components into one system with the following features:

- a system of planning by business activity (of which there are 35 in the OEE);
- an allocation of resources by business activity;
- the setting of annual targets by business activity, in terms of both outputs (the direct products and services produced by OEE activities) and outcomes (the impacts and effects of these outputs on Canadian citizens and organizations);
- a presentation of targets for most business activities in the annual business plan; and
- a reporting, both internally and externally, on resource expenditure and performance against targets, by business activity.

This work is proceeding on schedule.

1.5.4 To determine the extent to which it is possible to estimate the impact of its market transformation programs in terms of energy savings and GHG emissions

The OEE's work to date on performance planning and measurement has helped to better focus its programs and clarify their ultimate purpose. Ideally, one would want to know how much energy each program has

saved. However, this represents a major challenge because the OEE's programs are trying to change overall market behaviour and often have both a direct and an indirect effect. Measuring the indirect effect, which can be the most significant impact of a program, is very hard due to difficulties in determining incrementality – certainty that the desired change in the target group's behaviour would not have taken place if the OEE program did not exist – and attribution - certainty that the desired change in the behaviour of the target group did not take place as a result of some influencing factor other than the OEE program.

By December 2000, the OEE will have estimated the direct and indirect impacts of each of its market transformation programs in terms of energy savings and GHG reductions, where available information supports a clear link between program outputs (actions) and market outcome (results). In those areas without adequate data to prepare reliable estimates, the OEE will identify the missing data and the likely source and cost to obtain it. This will help determine the appropriate response to the Auditor General's request in 1997 that the OEE improve its information on the overall success of NRCan programs in contributing to Canada's climate change goals.

1.5.5 To review its partnership arrangements for program delivery

The OEE has a variety of arrangements where other parties contribute substantially to the delivery of the OEE's programs. To improve these programs, a review of those arrangements will see whether:

- approaches that work well in one program area could be applied to other areas;
- common approaches might be used across several programs; and
- new ways of attracting and involving partners might be applied.

1.5.6 To develop recommendations on federal energy efficiency programs to cover all energy use in Canada

To date, the OEE has delivered energy efficiency programs targeted primarily at final energy users. The OEE will investigate which areas of energy use not covered by any of its current programs – such as agriculture, electricity generation and energy production (oil, gas, coal) – might merit consideration for new programs or expansion of existing programs.

1.6 Business Lines

In support of its strategic objective, the OEE conducts its activities through three business lines:

- Market Transformation Programs;
- Corporate Communications; and
- Policy Advice, Analysis, Information and Data.

In addition to these three business lines, the OEE is served by several corporate services. These business lines and their key activities are set out below.

1.6.1 Market Transformation Programs

To encourage and assist Canadians to improve their energy use through five policy instruments:

Leadership – to improve energy use in federal operations by:

- assisting federal departments to increase the efficiency of their energy use in buildings and vehicles and to choose the most efficient vehicles.

Information – to advise energy users of efficiency opportunities by:

- creating awareness among Canadians of the economic and environmental benefits of energy efficiency and ATFs; and
- informing energy users about the various products, services and programs that can help increase energy efficiency.

Targeted Voluntary Programs – to encourage manufacturers of energy-using equipment and major energy users to commit to improving energy efficiency by:

- helping individuals, businesses, institutions and governments make energy efficiency choices by providing tools to remove market barriers (e.g. knowledge and financial analysis techniques); and
- publicly recognizing achievements and communicating success through action plan registries, case studies and awards.

Fiscal Incentives – to encourage the use of energy-efficient technologies and practices by:

- encouraging end-users, through financial incentives, to incorporate energy-efficient technologies and practices when they acquire, design or construct new buildings or retrofit existing buildings.

Regulations – to eliminate inefficient products from the market by:

- enforcing current regulations regarding energy efficiency performance and labelling, and developing regulations for additional products;
- developing energy efficiency test standards and maintaining those already in place; and
- delivering promotional material to support regulatory and labelling programs.

Additional information on each of the OEE's 16 market transformation programs is provided elsewhere in this plan:

- Chapter 3 provides a brief description and rationale
- Chapter 4 provides the budget
- Annex 3 provides a performance plan for 2000–2001

1.6.2 Corporate Communications

To provide Canadians with information on energy efficiency, transportation fuels and climate change, and to inform them that the OEE is a centre for energy efficiency knowledge, programs and advice by:

- producing communications and marketing material (printed and on-line) such as the OEE newsletter, the OEE information kit, the "Energy and Environment" calendar and the publications toll-free telephone line;
- organizing Canada's Energy Efficiency Conference, Trade Show and Awards Program;
- increasing awareness and understanding of climate change and encouraging early action; and
- marketing the OEE through media relations and other activities.

Additional information on each of the OEE's four corporate communications programs is provided elsewhere in this plan:

- Chapter 4 provides the budget
- Annex 3 provides a performance plan for 2000–2001

1.6.3 Policy Advice, Analysis, Information and Data

To assist public policy decision making on energy efficiency and transportation fuels by:

- analyzing, coordinating and developing policy and program options in the areas of energy efficiency and transportation fuels;
- preparing briefing material for the Minister and senior officials on energy efficiency and transportation fuel policies and programs;
- developing and maintaining a comprehensive, fully integrated data management, analysis and dissemination system on energy end-use, and providing economic and energy analysis on energy efficiency and its determinants;
- providing energy and economic analysis and policy advice on the development of energy performance and labelling regulations, coordinating the preparation of necessary documents for central agencies and participating in consultations on these regulations;
- coordinating federal–provincial and international relations on efficiency and alternative energy programs; and
- coordinating relations with other key stakeholders.

The following pages (7 to 9) briefly describe several of these key functions and their priorities:

The National Energy Use Database (NEUD)

By improving our understanding of where and how energy is used at the end-use level in Canada, the database reveals opportunities to improve energy efficiency. The NEUD helps Canada track the effectiveness of programs designed to address these opportunities. In conjunction with partners in government and the academic community, the OEE supports the development of energy end-use data in all sectors of the economy and the expansion of Canada's expertise in energy end-use analysis by:

- reviewing existing data in each end-use sector (residential, agricultural, commercial, industrial and transportation);

- assessing the information needs in each sector;
- expanding existing surveys or creating new ones to meet these data needs; and
- managing a network of energy end-use data and analysis centres for specific sectors at selected universities across Canada.

The main priorities in 2000-2001 are:

1) undertaking the Commercial Building Energy Use Survey; and
2) making the NEUD available on-line.

Intergovernmental Cooperation

Several provinces and territories also undertake energy efficiency programs. The OEE's primary role is to coordinate relations with them through formal letters of cooperation or through regular meetings. The OEE also produces the *Directory of Energy Efficiency and Alternative Energy Programs in Canada*.

Internationally, the OEE supports the Energy Sector's roles in such areas as negotiations on European Energy Charter protocols, meetings of the Council of Parties to the *United Nations Framework Convention on Climate Change*, activities of the North American Commission for Environmental Cooperation and several United Nations organizations (e.g. the Commission on Sustainable Development), and implementing Canada's International Business Development strategy. Not only is climate change a global environmental issue that requires a global response, lower barriers to international trade in products and services that reduce GHG emissions can promote energy efficiency.

The OEE also represents Canada at the Energy Efficiency Working Group of the International Energy Agency (IEA) and in dealings with the Asia–Pacific Economic Cooperation (APEC) and the Hemispheric Energy Initiative. It regularly contributes information to surveys, studies and other projects undertaken by these international organizations. In some cases, the OEE engages in information transfer to learn from or assist efforts being made by other countries. Although this primarily involves Canada's *NAFTA* partners (Mexico and the U.S.), the OEE also exchanges information (e.g. on systems to track energy market trends) with IEA and European Union countries. The OEE also exchanges information and advice with the Energy Policy Branch's International Energy Division at NRCan.

Municipal Buildings and Municipal Green Funds

In the municipal sector, the OEE coordinates the participation of NRCan in the implementation, governance and project approval process of the Federation of Canadian Municipalities' (FCM's) Green Municipal Funds that were announced in the February 2000 federal budget. Through the FCM, the OEE also coordinates the development and implementation of the municipal building retrofit program to be launched in fall 2000.

The OEE's 2000–2001 priorities include:

1) designing and implementing a strategy for NRCan's participation in the FCM's Green Municipal funds, governance and operations. This will include, for areas under NRCan's responsibilities, coordinating technical and financial experts' nominations from the Government of Canada to the funds' peer review committees and councils, and actively participating in the project approval process.

2) developing and implementing marketing products and services for the municipal building retrofit program based on the results of extensive market research done by FCM. This will aim at identifying, developing and financing municipal energy retrofits.

3) ensuring the integration of the Green Municipal funds with the municipal building retrofit program and other relevant OEE programs and activities.

VCR Inc. Liaison and Coordination

The OEE is responsible for administering NRCan's contribution agreement with VCR Inc. and providing the Minister and Deputy Minister with information and advice regarding VCR Inc. It also provides advice to participants in OEE programs (e.g. Energy Innovators) on participation in VCR Inc. The OEE liaises with VCR Inc. on behalf of NRCan, and liaises with relevant NRCan programs and other federal and provincial government departments regarding VCR Inc. matters.

Federal House in Order

In partnership with Environment Canada and in collaboration with key federal departments, the OEE is responsible for developing a House in Order initiative for the federal government to respond to the Kyoto challenge and reduce GHG emissions from its own

operations. The initiative will enable the government to demonstrate leadership, establish a revised emissions reduction target and establish a credible GHG tracking and accountability system. Work will include conducting analyses, enhancing program offerings and implementing early actions.

Baseline Protection

On January 12, 2000, federal, provincial and territorial ministers of energy and the environment announced the establishment of a Baseline Protection Initiative (BPI). Baseline protection removes the disincentive to take early action to reduce domestic GHG emissions by ensuring parties taking such measures that they will be no worse off by doing so. Since January, the OEE has managed a consultative process related to the design of this initiative on behalf of Canada's National Climate Change Process. It is anticipated that the BPI will begin to accept registrations from Canadian entities later this fiscal year.

Key priorities in 2000–2001 include:

1) completing the consultative process;
2) finalizing rules, implementing procedures and opening the registration system; and
3) developing information to assist registrants in preparing Baseline Protection applications.

Model National Energy Codes

The Model National Energy Codes for Buildings and the *Model National Energy Code for Houses* aim at increasing the energy efficiency of new Canadian buildings and houses by specifying minimum requirements for energy use on an economic basis in different regions. The Codes were developed by the Canadian Commission on Building and Fire Codes during the 1990s. NRCan, energy utilities, provincial and territorial governments, and the National Research Council (NRC) participated and provided technical support. The OEE will promote and monitor the use and impact of the MNEC by authorities having jurisdiction for buildings in Canada. Through its operation of the Commercial Buildings Incentive Program, the R-2000 HOME Standard and EnerGuide for Houses, the OEE will continue to assess the relevancy of the MNEC to construction practices in Canada.

During 2000–2001, the OEE will consult with jurisdictions and stakeholders as to the appropriateness and feasibility of adopting MNEC as part of a strategy to meet climate change objectives and what contribution this would have to GHG emission reduction targets in the buildings sector.

Urban Energy Planning

The OEE's Urban Energy Planning Initiative is being designed to help municipal planners develop local GHG mitigation plans and improve Canada's assessment of municipalities' measures. The program will share urban planning best practices, modelling methodologies, and energy and environmental data. It will provide urban government decision-makers with consistent information and analysis to help them design, assess, administer and monitor GHG mitigation options.

The OEE's priorities in 2000–2001 are:

1) positioning the OEE as a provider, and/or coordinator for the dissemination, of information to urban planners in order to strengthen the role of GHG analysis in urban planning; and
2) identifying, through a pilot project, the appropriate tools, information distribution mechanisms and type of coordinating role that the OEE could use to deliver a new program for urban planners.

OEE Reports

The OEE produces five reports and studies each year:

- *The State of Energy Efficiency in Canada* (annual report of the OEE);
- *Energy Efficiency Trends in Canada*;
- Report to Parliament under the Energy Efficiency Act;
- *Emission Reductions from Federal Operations*; and
- *Directory of Energy Efficiency and Alternative Energy Programs in Canada.*

The budget for each of the OEE's policy advice and information activities is provided in Chapter 4.

1.7 Business Units

For planning, management and reporting purposes, the three business lines and Corporate Services are divided into 13 business units:

Market Transformation Programs

1) Housing – New
2) Housing – Existing
3) Equipment
4) Commercial and Institutional – New Buildings
5) Commercial and Institutional – Existing Buildings
6) Government Operations – Federal
7) Industry
8) Road Transportation – Private Vehicles
9) Road Transportation – Fleet Vehicles
10) Road Transportation – Fuels
11) Policy Advice, Analysis, Information and Data
12) Corporate Communications
13) Corporate Services

The business units, in turn, are divided into the OEE's 35 business activities, which are listed in Chapter 4, Table C.

1.8 Organization

Figure 4 shows the OEE's organization chart. The OEE is composed of the Director General's office, four divisions and two corporate groups. One member of the Director General's office is a science and technology advisor on environment, energy efficiency and ATFs. Policy, data collection and analysis services are centralized in one division. The three other divisions deliver market transformation initiatives targeted to specific sectors of the economy. The OEE also has an external advisory council.

1.8.1 Divisions and Corporate Groups

The **Demand Policy and Analysis Division** (DPAD) acts, on behalf of the federal government, as the focal point for public- and private-sector energy efficiency data, analysis, policy and program information. The DPAD also monitors energy intensity in energy-use sectors.

The **Transportation Energy Use Division** promotes energy efficiency with respect to new vehicle purchases and vehicle operations by individual motorists and commercial fleets. It also facilitates the market penetration of new vehicle technology, as well as alternative and future fuels. It delivers leadership, information, voluntary action and incentive programs.

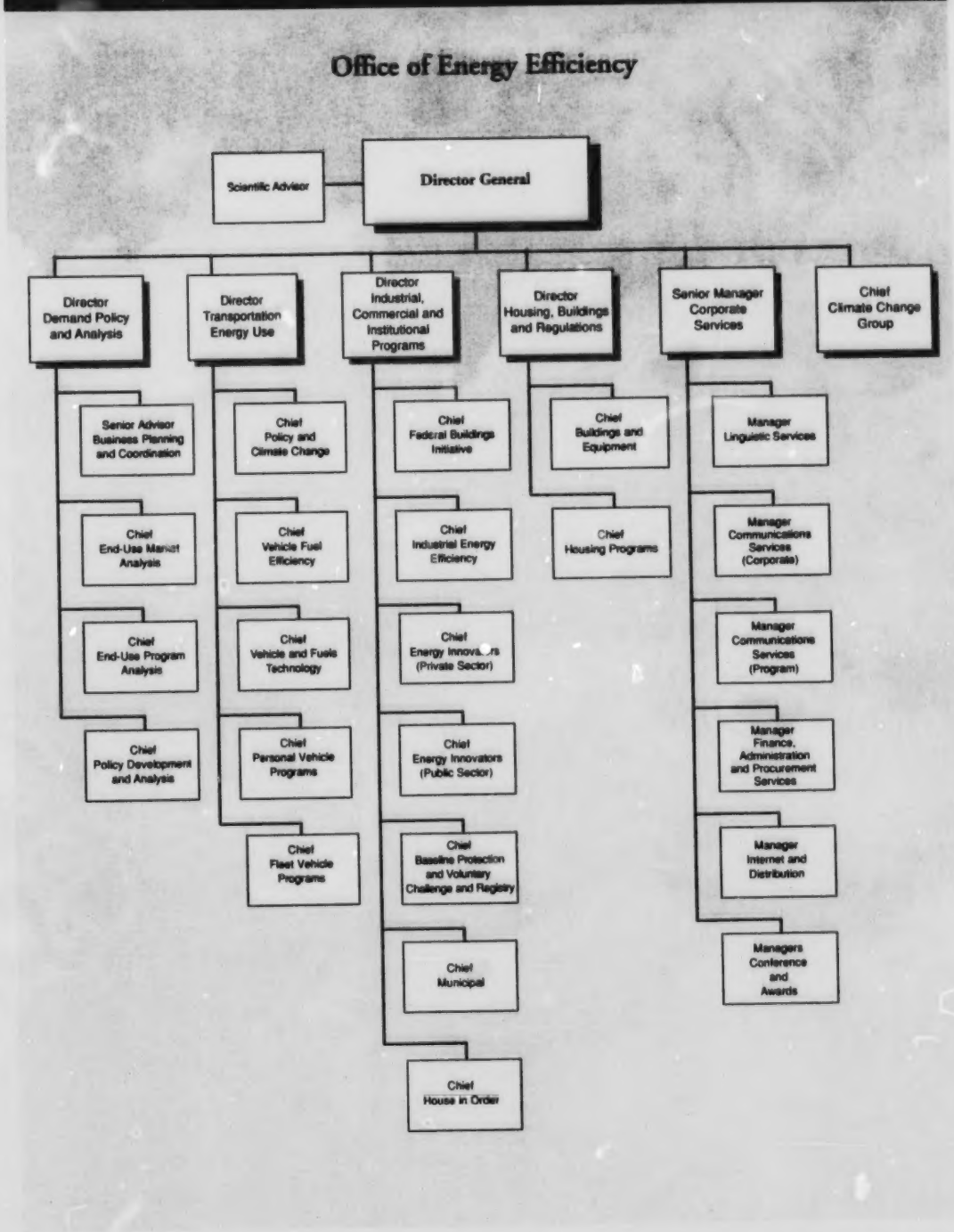
The **Industrial, Commercial and Institutional Programs Division** (ICIPD) promotes and facilitates investments in energy efficiency in the commercial, institutional, industrial and government sectors in Canada through leadership, voluntary action and incentive programs.

The **Housing, Buildings and Regulations Division** promotes the market penetration of energy-efficient technologies and practices in building construction and in housing construction, renovation and operation through a mix of information, voluntary action, incentive and regulatory programs.

The **Corporate Services Group** provides three services: communications, public information and central management. Communications services include linguistic services, the production of communications and marketing material (printed and on-line), exhibits and warehousing for the OEE's initiatives and some programs outside the OEE. Public information activities encompass advertising, special events and other activities that deal directly with the public. Central management services include comptrollership functions, facilities management, operational training and training coordination for the entire OEE.

The **Climate Change Group** is responsible for co-managing with Environment Canada the public outreach portion of the Climate Change Action Fund. The fund was established to build a foundation for the National Implementation Strategy on Climate Change and to initiate early action to reduce emissions. The OEE also shares the lead with Environment Canada in the design and implementation of a strategy for the Government of Canada to build awareness and understanding of climate change.

FIGURE 4: Organization Chart


Office of Energy Efficiency
Scientific Advisor
Director General
Director Demand Policy and Analysis
Director Transportation Energy Use
Director Industrial, Commercial and Institutional Programs
Director Housing, Buildings and Regulations
Senior Manager Corporate Services
Chief Climate Change Group
Senior Advisor Business Planning and Coordination
Chief End-Use Market Analysis
Chief End-Use Program Analysis
Chief Policy Development and Analysis
Chief Policy and Climate Change
Chief Vehicle Fuel Efficiency
Chief Vehicle and Fuels Technology
Chief Personal Vehicle Programs
Chief Fleet Vehicle Programs
Chief Federal Buildings Initiative
Chief Industrial Energy Efficiency
Chief Energy Innovators (Private Sector)
Chief Energy Innovators (Public Sector)
Chief Baseline Protection and Voluntary Challenge and Registry
Chief Municipal
Chief House in Order
Chief Buildings and Equipment
Chief Housing Programs
Manager Linguistic Services
Manager Communications Services (Corporate)
Manager Communications Services (Program)
Manager Finance, Administration and Procurement Services
Manager Internet and Distribution
Managers Conference and Awards

1.8.2 National Advisory Council on Energy Efficiency

The National Advisory Council on Energy Efficiency was established in 1998 to provide advice and guidance to the OEE. The Council includes energy efficiency experts and leaders from all segments of society. The Council advises the OEE on:

- strategic direction in meeting federal policy objectives;
- business planning and programs;
- performance measurement and progress reports; and
- other long-term issues.

1.9 Financial Resources

Financial resources available to the OEE for fiscal year 2000–2001 are $35.76 million. Chapter 4 provides further details on the OEE's budget and its allocation.

Chapter 2. Planning Context

2.1 Introduction

The plans and operations of the OEE are shaped by three elements:

- NRCan's and the Energy Sector's planning framework;
- the OEE's clients and partners; and
- the OEE's business environment.

This chapter presents a summary of these elements. Additional details are provided in Annex 2.

2.2 Departmental and Sectoral Planning Framework

2.2.1 NRCan Planning Framework

NRCan's policy goals align its mandate with the federal government's priorities. *Natural Resources Canada 2000–2001 Estimates: Part III. Report on Plans and Priorities* lists five departmental policy goals. OEE programs contribute primarily to Goal 3:

- To manage the environmental impacts of natural resource development and use.

Greater energy efficiency and use of ATFs contribute to minimizing the impacts of energy use (i.e. emissions of GHGs) on the environment.

2.2.2 Energy Sector Planning and Performance Framework

The OEE's priorities, activities and performance measurement in 2000–2001 will directly respond to the Energy Sector's imperatives as set out in the *Energy Sector Business Plan 1999-2002.*

2.2.2.1 Energy Sector Mission

The mission of the Energy Sector is "A Better Energy Future for Canada." The Energy Sector's mission statement reflects the sector's intention to pursue sustainable development in a way that meets the needs of the present generation, without compromising the ability of future generations to meet their own needs. Through its science and technology, policies, programs and international work, the sector helps address the climate change challenge; promotes better environmental and consumer choices; contributes to technological innovation, job creation and economic growth; facilitates environmental protection and increased public safety and security; and helps to ensure a competitively priced, secure and reliable energy supply for Canadians.

2.2.2.2 Energy Sector Priorities

Priorities of the Energy Sector are defined at three levels: business priorities, people and organizational development, and corporate management. Environmental stewardship, climate change and nuclear waste issues dominate the short- to mid-term policy agenda. The overarching challenge is how to address Canada's Kyoto commitment without hampering Canada's economic activity.

2.3 Clients and Partners

A key function of the OEE is to communicate the value of improved energy efficiency and ATFs, as well as to advise the public on contributions they can make for individual and societal benefits. The OEE has clients and partners that help achieve these objectives while treating all citizens equitably:

- the Canadian public (clients)
- the Minister of Natural Resources (client and partner)
- industry, professional and voluntary associations (clients and partners)
- other branches in NRCan (partners)
- other federal departments and agencies (clients and partners)
- other levels of government (partners and clients)
- energy utilities (partners)

2.4 Business Environment

The operations of the OEE are also shaped by the OEE's business environment. This section describes the major outside factors that will influence the OEE's program and policy development activities this year.

2.4.1 Climate Change and Canada's International Commitments

Climate change has been described as a test case for sustainable development and the management of cross-cutting (i.e. "horizontal") policy issues. Although Canada is working toward a six percent reduction in GHG emissions from 1990 levels by 2008 to 2012, the demand for energy and the resulting emissions continue to increase because of population growth, economic growth and the relatively low cost of energy. Major contributors to GHG emissions are the transportation and industrial sectors.

Climate change will remain prominent on the government's agenda. The climate change file is becoming more complex as the focus changes from consultations to the development of an action plan for federal and provincial energy and environment ministers to consider in the fall of 2000. The Energy Sector and the OEE will be called upon to develop and deliver much of the government's response to Canada's climate change commitments made in Kyoto. At the same time, achieving the targeted emissions reduction will require considerable commitment on the part of the public as consumers, of industry as energy producers and users, and of governments at all levels.

2.4.2 Energy Prices

Energy prices for final energy users in Canada are low in comparison with most member countries in the Organisation for Economic Co-operation and Development (OECD). In part this is because Canada is a major producer of energy. Energy prices have been relatively stable since the beginning of the decade and are not expected to increase for the next 10 to 15 years.

The OEE is committed to promoting energy efficiency measures where they make economic sense. With low energy prices, the optimum economic level of energy efficiency is significantly less than the efficiency levels that are technically possible. As a result, low energy prices make energy efficiency initiatives less of a priority for energy users. Thus, the OEE's role is particularly important when energy prices are low.

2.4.3 The Economy

The Canadian economy is expected to experience an average annual growth rate of 2.3 percent between 2000 and 2010. As the economy grows, so too does the demand for energy. Total end-use demand for energy is projected to rise by 13 percent between 1997 and 2010 in a business-as-usual scenario.

2.4.4 Energy Efficiency Activities Among Traditional Partners

Nine of the 13 provincial and territorial energy departments have energy efficiency and/or ATF programs. Following a substantial decline in energy efficiency and alternative energy (EAE) activities in the mid-1990s, budgets remained stable until about 1998. In the last two years, however, there has been a major increase in the EAE budgets of at least three jurisdictions – Quebec, the Yukon and the Northwest Territories. In particular, the budget of the Agence de l'efficacité énergétique of Quebec increased from $2.5 million in 1998-99 to $9 million in 2000-2001. This increase in activities by some governments has increased opportunities and the need for coordinated action with other jurisdictions.

In the case of energy utilities, some regions have practically eliminated their demand-side management programs and have reduced their marketing efforts for ATFs.

2.4.5 Federal Budget 2000

The 1997 federal budget announced new energy efficiency funding for the OEE of $16 million per year over three years commencing April 1, 1998. This "sunset" funding resulted in new OEE initiatives to provide financial incentives for energy efficiency improvements in new commercial buildings (Commercial Building Incentive Program – CBIP); or encourage commercial building retrofits (Energy Innovators Plus); and provide for the energy efficiency evaluation and labelling of houses (EnerGuide for Houses). The 2000 budget extended this funding for the OEE for three years, up to March 2004.

The 2000 federal budget also provided funds for municipalities which will involve the OEE:

- The Green Municipal Enabling Fund ($25 million) is a five-year fund that will provide grants to cost-share audits and feasibility studies for projects designed to reduce GHG emissions and improve air and water quality, as well as to encourage the sustainable use of renewable and non-renewable resources.
- The Green Municipal Investment Fund ($100 million) will provide loans and loan guarantees to enable recipients to carry out, among other things, direct energy efficiency measures such as the retrofitting of buildings and public transit systems that will result in reduced GHG emissions. Demonstration projects will be eligible for grants sourced from the fund's accumulated interest.

The funds will be operated by the Federation of Canadian Municipalities (FCM) at arm's length from the federal government. The FCM Board will appoint the councils and committees that will oversee the operation of the funds. The OEE will coordinate Natural Resources Canada's nominations for the councils and committees.

The budget also extended for three years – until March 31, 2004 – the $150 million funding for the Climate Change Action Fund, which supports some public outreach and education activities of the OEE.

Chapter 3. Energy Sector Strategies

3.1 The Energy Market

The OEE's objective is to transform the energy market by increasing the efficiency of energy-using equipment, buildings, processes and vehicles and by improving the energy efficiency with which they are used by Canadians and Canadian organizations. Given the magnitude and cost of energy use and energy-using structures and machines, it is a major task.

Canadians spent more than $81 billion in 1998 on "final" energy use — namely, energy used to heat and cool their homes and offices, to operate their appliances, cars, trucks, planes and trains, and to power industrial processes. This represented about nine percent of Canada's gross domestic product.

3.2 OEE Programs and Policy Instruments

The OEE manages 14 programs to increase energy efficiency in all end-use sectors, and two initiatives to encourage greater use of ATFs. The OEE's programs emphasize the benefits of partnerships and economic investment; all are fuel-neutral (except the ATF programs). These programs aim to overcome the barriers of inadequate information and knowledge, institutional deterrents, and financial and economic constraints in the energy end-use market.

The OEE's market transformation framework uses the following policy instruments:

- leadership by the federal government in reducing atmospheric emissions from its own energy use;
- information programs to alert energy users to the existence and benefits of energy efficiency opportunities; to increase awareness, acceptance and use of energy-efficient technologies; and to ensure that energy users are aware of NRCan's programs and assistance (including support for technology research, development and demonstration);
- voluntary programs that support energy users in improving the efficiency of their energy use by seeking the leadership of key private sector figures; encouraging energy users to commit to energy efficiency targets and action plans to realize these targets; and supporting other federal support frameworks – such as VCR Inc.
- direct financial incentives to increase private sector investment in energy efficiency, stimulate a more rapid adoption of current energy-efficient and advanced technologies, and promote the net positive economic effect of energy efficiency improvements; and
- regulations that set performance standards to eliminate less energy-efficient products from the marketplace.

For each energy end-use sector, the OEE has developed a strategy that applies some or all of these policy instruments in one package. The selection of policy instruments reflects the nature of each market in question and the OEE's budget.

Progress indicators have been developed to monitor the performance of each program initiative and to guide program modifications (see Chapter 5 and Annex 3). The OEE also surveys and analyses changes in the marketplace to measure progress in improving energy efficiency in each end-use sector, and to identify further opportunities for improvements.

The OEE's standards and standards-development processes provide a strong basis for developing additional measures, information mechanisms and partnership networks.

The following pages (17 to 23) outline the OEE's strategies in each energy end-use sector.

3.3 Residential Sector

3.3.1 Context

In 1998, the residential sector accounted for 16.8 percent (1288 PJ) of secondary energy use and 15.3 percent (69 Mt of CO_2 equivalent) of GHG emissions in Canada resulting from secondary energy use.

The majority of Canadian dwellings are single detached houses, followed by apartments, single attached dwellings and mobile homes. Because single attached and detached houses predominate, most NRCan residential building programs focus on these dwellings. Space and water heating make up 81 percent of residential energy use, with the remaining share devoted to operating appliances, lighting and space cooling.

Between 1990 and 1998, residential energy use decreased by 2.4 percent, or 32 PJ. GHG emissions from the residential sector decreased by 0.8 percent from 1990 to 1998. A 0.8 percent decrease in GHG emissions compared with a 2.4 percent decrease in energy use reflects a 1.7 percent increase in GHG intensity, a result of consumer fuel-switching and the electricity-generating industry switching to more carbon-intensive fuels.

Two main factors – activity and structure – increased residential energy use, while weather decreased energy use:

- activity – the increase in the number of households and in the floor area of houses (the principal measure of residential activity being floor area) increased energy use by 16.2 percent (214 PJ);
- structure – the structure of activity became more energy-intensive, primarily because of increased use of appliances and space cooling. This increased energy use by 1.2 percent (16 PJ); and
- weather – warmer weather in 1998 compared to 1990 (which itself was a warm year) led to a decrease in space heating requirements. This decreased energy use by 5.2 percent (68 PJ).

If only these three factors had been in effect, residential energy use would have increased by 12.3 percent (162 PJ). However, improvements in energy efficiency worked to decrease energy use by 12.5 percent (165 PJ). The remaining 29 PJ decrease is attributed to interactions between the four principal factors.

Space heating is where the largest energy efficiency gains can be made in the residential sector. By 2010, energy-efficient houses built after 1995 will represent only 21 percent of the housing stock, so improving the energy efficiency of existing housing will help reduce the country's overall emissions. The relatively short life span of energy-using equipment (less than 20 years) offers another avenue for further increasing energy efficiency in this sector.

3.3.2 OEE Strategies

The OEE's strategies in the residential sector are in three areas: energy-using equipment, housing construction and housing renovation.

3.3.2.1 Energy-Using Equipment

The OEE's strategy for energy-using equipment is to gradually exclude the least efficient equipment from the residential market and influence consumers to select – and manufacturers to produce – energy-efficient products that perform higher than the minimum standards.

Canada's Energy Efficiency Regulations are an appropriate instrument for influencing the energy efficiency of new products being sold because:

- householders may not be aware of the energy consumption implications of their equipment purchases;
- the principal types of energy-using equipment (e.g. appliances and furnaces) are relatively standardized and thus are amenable to regulation; and
- Canadian federal regulations complement similar regulations in the U.S. and in some provinces.

The federal regulatory process ensures that minimum performance standards developed by the OEE (under the authority of the *Energy Efficiency Act*) will not, on average, economically disadvantage consumers. To date, the Regulations apply to more than 20 residential energy-using products that account for 73 percent of overall residential energy use.

The OEE's **EnerGuide for Equipment and HVAC Program** encourages consumers to purchase products that are more energy-efficient where their particular circumstances make it worthwhile. The accurate labelling by manufacturers of seven types of household products is required by regulations under the *Energy Efficiency Act*. Manufacturers of heating, ventilating and air conditioning (HVAC) equipment voluntarily list the energy consumption of their products in product brochures through the EnerGuide HVAC Energy Efficiency Rating System. These brochures, rather than labels affixed to the products, are more likely to be seen by consumers before they decide to make a purchase.

3.3.2.2 Housing Construction

The OEE's objective for housing construction is to increase the overall energy performance of new housing across Canada. This is achieved by:

- supporting the establishment of a baseline for energy-efficient housing;
- demonstrating to home buyers the economic, health and environmental benefits of energy-efficient houses;
- increasing builders' knowledge of energy-efficient housing technologies and practices; and
- providing a market for energy-efficient housing construction products and equipment.

It generally is more economical to improve the energy efficiency of houses during rather than after construction. The **R-2000* HOME Standard** is a voluntary program for builders who wish to construct houses that are highly energy efficient. The program trains builders to meet the R-2000 standard, certifies houses built to the standard and encourages buyers to purchase these more efficient houses. The program seeks to improve the energy efficiency of all new housing construction by promoting the benefits of voluntarily adopting some of the energy efficiency aspects of the R-2000 HOME Standard into general construction practices.

3.3.2.3 Home Renovations

The OEE's strategy for home renovations is to make the benefits of improved energy efficiency more evident to homeowners and to provide them with appropriate information so that they can consider energy efficiency when renovating their homes. Promoting energy-efficient home renovations is difficult because the opportunities for energy efficiency improvements are not standard and thus not amenable to regulation. There are also too many households to engage in a voluntary commitment program. By partnering with manufacturers and dealers of energy efficiency products and materials, such as Home Hardware Stores Limited, the OEE's messages and tips encourage consumers to keep energy efficiency in mind when renovating their homes. The **EnerGuide for Houses** program promotes energy-efficient home renovation through a home energy rating system based on home energy audits. Energy advisors conduct detailed on-site energy audits and provide homeowners with a personalized report and advice on potential energy improvements. Homeowners are encouraged to use this information to take actions to improve energy efficiency.

3.4 Commercial and Institutional Sector

3.4.1 Context

In 1998, the commercial and institutional sector accounted for 12.3 percent (944 PJ) of secondary energy use and 11.9 percent (54 Mt of CO_2 equivalent) of GHG emissions resulting from secondary energy use. The commercial and institutional sector includes activity related to trade, finance, real estate, public administration, education, and commercial services, including tourism.

This sector comprises many building types. Retail and office space account for nearly half (49 percent) of commercial and institutional sector energy demand. Schools, health care facilities, hotels and restaurants account for another 33.8 percent of that demand. NRCan programs address all of these major energy-using building types.

Energy is used for six main purposes in commercial and institutional buildings. The major one is space heating, which accounts for more than half (52 percent) of the sector's energy demand. Each of the remaining five uses of energy in this sector – water heating, space cooling, lighting, auxiliary motors for services such as pumping and ventilation in buildings, and auxiliary equipment – accounts for between 5 and 15 percent of its energy demand. Plug load and refrigeration are two other important factors in building energy use.

Between 1990 and 1998, commercial and institutional energy use increased by 8.9 percent or 77 PJ (from 867 to 944 PJ). However, GHG emissions from the commercial sector rose by 13.1 percent in the same period. The main factor causing emissions to increase more quickly than energy use was the increase in the GHG intensity of electricity production. Slight changes in end-use fuel shares partly explained the remaining increase in GHG intensity.

Four key factors explain the change in commercial and institutional energy use – activity, weather, structure and energy efficiency:

*R-2000 is an official mark of Natural Resources Canada.

- activity – the change in floor space (the principal measure of activity) increased energy use by 13.8 percent (118 PJ);
- weather – warmer weather in 1998 compared to 1990 led to a decrease in energy use by 2.3 percent (20 PJ); and
- structure – the change in the distribution of floor space among different uses increased energy use marginally (3 PJ).

If only these three factors had been in effect, commercial and institutional energy use would have increased by 11.8 percent (101 PJ). However, improvements in energy efficiency worked to decrease energy use by 2.1 percent (18 PJ). The remaining 6 PJ decrease is attributed to interactions between the four principal factors.

Reducing the space heating requirements of the existing building stock is where the most gains in energy efficiency can be realized. Energy efficiency improvements are also possible in the area of auxiliary motors, and auxiliary equipment and lighting, which account for more than 30 percent of commercial energy use.

3.4.2 OEE Strategies

The OEE's strategies in the commercial and institutional sector are in three areas: energy-using equipment, building construction and voluntary initiatives.

3.4.2.1 Energy-Using Equipment

The OEE's strategy for energy-using equipment is to gradually exclude the least efficient energy-using equipment from the commercial and institutional markets in line with its trading partners, and influence consumers to select – and manufacturers to produce – energy-efficient products that perform higher than the minimum standards. The OEE regulates minimum energy performance levels for certain energy-using equipment in the commercial and institutional sector. Because equipment used in this sector is generally less standardized than that used in the residential sector, developing appropriate standards and regulations is more difficult. Nevertheless, regulations are now in place for electric motors, fluorescent lamps and ballasts, incandescent reflector lamps, ice makers, and certain heating and air conditioning equipment. Other equipment will be included in future regulations.

3.4.2.2 Building Construction

The OEE's strategy for building construction is to accelerate the change in building design and construction practices by:

- marketing the economic and environmental benefits of more energy-efficient construction;
- increasing the awareness and knowledge of building owners, designers and builders; and
- supporting the incremental cost of designing more energy-efficient buildings.

The OEE offers financial incentives through the **Commercial Building Incentive Program (CBIP)**, encouraging the design and construction of new commercial and institutional buildings to levels of energy efficiency that are at least 25 percent better than the *Model National Energy Code for Buildings* (MNECB) levels. The incentive is aimed at the design community and is intended to improve standard practices so that designing commercial and institutional buildings to high levels of energy efficiency becomes commonplace. Because the required level of energy efficiency is economic, the incentive does not contribute toward the capital investment required to install the more energy-efficient technologies; rather, it compensates the builder for part of the incremental costs to develop more energy-efficient designs and to use energy efficiency evaluation software.

3.4.2.3 Voluntary Initiatives

There are many types of buildings and enterprises within the commercial and institutional sector. Each sub-sector has its own requirements, constraints and opportunities when it comes to energy use. Given the number of decision-makers that influence energy use in this sector, the OEE implements strategies to influence individual organizations at the sectoral level through partnerships with associations. The **Energy Innovators Initiative (EII)** encourages organizations in the commercial and institutional sector to make a voluntary commitment to increase energy efficiency in their operations because it makes economic and environmental sense. The EII helps organizations strategically focus on energy management and enables them to plan, finance, implement and track their energy-saving initiatives within their management frameworks. In the course of becoming Energy Innovators and institutionalizing energy efficiency within a corporate culture, organizations are provided with a

comprehensive package of services and tools. Organizations that participate in the EII are encouraged to register their energy efficiency commitments and plans with VCR Inc.

The EII aims to encourage entire market sectors to become energy-efficient and contribute to the reduction of GHG emissions through partnerships with associations. In addition, a benchmarking and best practices program has been developed in some sectors. The EII program also makes funding available to organizations that agree to replicate energy retrofit pilot projects.

The OEE ensures federal leadership through its **Federal Buildings Initiative (FBI)**, which promotes the energy retrofit of buildings owned and operated by the federal government. Many of the products and services described in the preceding paragraphs were first shown to be successful through their use in this initiative. The key program element – a financing mechanism which allows third-party financing of energy retrofits – addresses the pervasive lack-of-capital barrier.

3.5. Industrial Sector

3.5.1 Context

In 1998, industrial energy demand accounted for 39.5 percent (3027 PJ) of secondary energy use and 34.4 percent (155 Mt of CO_2 equivalent) of GHG emissions resulting from secondary energy use.

The industrial sector includes forestry, construction, mining and all manufacturing. This sector uses energy in industrial processes as a source of motive power to produce heat or to generate steam.

Manufacturing is the largest energy user, accounting for about 83 percent of industrial energy use in 1998. Within the manufacturing sector, energy is consumed primarily in the petroleum refining, iron and steel, upstream mining, aluminum, organic chemicals, and pulp and paper industries. Together, these sectors account for 61 percent of total industrial energy demand in 1998.

Over the 1990 to 1998 period, industrial energy use increased by about 10 percent (272 PJ). Two main factors contributed to the increase in industrial energy use since 1990 – activity and structure:

- activity – increases in physical industrial output and gross domestic product contributed to an increase in energy use of 16.5 percent (455 PJ);
- structure – the change in the mix of activity towards more energy intensive industries (e.g. pulp and paper, iron and steel, aluminum and mining) resulted in a 2.2 percent increase in energy use (62 PJ).

If only these two factors had been in effect, industrial energy use would have increased by 18.8 percent (517 PJ). However, improvements in energy efficiency worked to decrease energy use by 5.3 percent (145 PJ). The remaining 100 PJ decrease is attributed to interactions between the three principal factors.

While energy use between 1990 and 1998 increased by 9.9 percent, industrial GHG emissions increased by only 9.0 percent. Emissions grew more slowly than energy use, in part because several industries – especially pulp and paper, rubber, machinery, printing and publishing and leather and allied products – were switching from heavy fuel oil, coal and coke oven gas to other, less GHG-intensive fuels and electricity.

In the industrial sector, large and intensive energy users typically invest in energy reduction projects with short payback periods. Because some industrial equipment lasts 35 years or more (e.g. boilers, blast and electric arc furnaces), new technologies are not incorporated into the stock quickly. Energy efficiency improvements are more easily achieved in common products and processes, such as motors and motor systems. Continued switching from fossil fuels to carbon-neutral biomass energy sources (such as wood and pulp waste) also represents an opportunity to further reduce emissions in the industrial sector.

3.5.2 OEE Strategies

The OEE's strategies in the industrial sector are in two areas: energy-using equipment and voluntary action.

3.5.2.1 Energy-Using Equipment

Much of the sector's energy use is process-related and requires specialized energy-using equipment. This makes regulation difficult. Nevertheless, there are some common products that are amenable to standardization

and regulation. The OEE has implemented minimum efficiency standards for electric motors, and stricter requirements for fluorescent and incandescent lamps. It is investigating the possibility of implementing standards for additional products used in the industrial sector.

3.5.2.2 Voluntary Action

The OEE's principal focus in the industrial sector is to encourage and facilitate voluntary action, both industry-wide and at the company level. This industry-driven approach to energy efficiency improvements recognizes that industry knows its processes better than government does.

The **Canadian Industry Program for Energy Conservation (CIPEC)** facilitates the development of energy intensity improvement targets and action plans for each industrial sub-sector. To support target setting and measurement, the OEE continues to improve the quality and availability of data, as well as the analytical framework for understanding and tracking industrial end-use. CIPEC provides a sector-level impetus for the improvement of industrial energy efficiency.

Building on CIPEC, the OEE works with industry through the **Industrial Energy Innovators Initiative (IEII)** to transfer the sub-sector targets and commitments into company-level action, which is reported through VCR Inc. This initiative offers products, services and access to other sources of support to help overcome information and resource barriers to implementing energy efficiency opportunities.

The OEE aims to ensure that all companies have a comprehensive awareness of their opportunities for more productive energy use, have staff with the skills to pursue these options and to compete for capital funding, and have management support to investigate areas of cost savings.

3.6 Transportation Sector

3.6.1 Context

The transportation sector accounts for almost 29 percent (2182 PJ) of secondary energy use and almost 35 percent (157 Mt of CO_2 equivalent) of GHG emissions resulting from secondary energy use.

The transportation sector consists of three sub-sectors: passenger, freight and off-road. Passenger and freight transportation account for 59 and 38 percent respectively of transportation energy use, with off-road representing only 3 percent. The passenger sub-sector is composed of three modes: road, rail and air. The freight sub-sector comprises road, rail and marine. Road transport uses the most energy, accounting for 78 percent of total transportation energy use – 83 percent of passenger energy use and 77 percent of freight energy use. All NRCan transportation energy-use programs focus on the energy used in road transportation.

Transportation energy use increased by about 16 percent (304 PJ) from 1990 to 1998. Passenger transportation energy use increased by almost 10 percent (116 PJ), while freight transportation energy use increased by almost 26 percent (172 PJ). Two main factors were responsible for this increase – activity and structure:

- activity – due to an increase in population and economic activity, there was greater transportation activity (measured as passenger-kilometres for passenger transportation and tonnes-kilometres for freight transportation). This increased transportation energy use by over 16 percent (293 PJ). The freight and passenger segments have contributed equally to this increase; and
- structure – shifts between modes of transport was significant in the freight segment, resulting in an increase of 7 percent in transportation energy use (134 PJ).

If only these two factors had been in effect, transportation energy use would have increased by almost 23 percent (427 PJ). However, improvements in energy efficiency worked to decrease energy use by over 5 percent (103 PJ). The remaining 19 PJ decrease is attributed to the interactions between the three principal factors.

From 1990 to 1998, both transportation energy use and GHG emissions increased by 16 percent. The change in GHG intensity of transportation energy use was negligible.

After a growth phase in the 1980s, markets for propane and natural gas vehicles based on after-market conversions reached a plateau in the early 1990s. Since 1994, these markets have declined as new vehicles have become difficult and more costly to convert. In the

same period, car makers delayed introduction of factory-built alternative vehicles and incremental costs were too high to provide a reasonable payback to users. Market activity for these fuels is centred in Ontario and British Columbia where refueling facilities are considered adequate for growth of the vehicle market. Recently in Quebec, Gaz Métropolitain Inc. promised to re-enter the market.

Ethanol-blended gasoline experienced good growth from a low base over the last few years. By 1998, approximately 175 million litres of ethanol per year were sold through nearly 1000 outlets across Canada and prospects are bright for further growth into the 300 million litres-per-year range.

3.6.2 OEE Strategies

The OEE focuses on road transportation, which accounts for the majority of energy use in this sector. The OEE's strategy is to influence the energy efficiency of vehicle stock, driver behaviour and selection of fuels.

3.6.2.1 New Vehicles

With respect to the energy efficiency of new vehicles sold, the motor vehicle industry participates in a voluntary **Vehicle Fuel Efficiency** program for cars and light-duty trucks in Canada. The program targets are equivalent to fuel economy standards in force in the U.S., reflecting the highly integrated nature of the North American automotive market. This aspect of the automotive market has made it difficult for Canada to strengthen its targets.

Since attaining the targets is based not only on vehicle technology but also on consumer choice of vehicles, the OEE is placing greater emphasis on influencing the demand for more fuel-efficient vehicles. The **EnerGuide for Vehicles** program, launched in 1998, provides information on the fuel consumption of new vehicles to help buyers choose the most fuel-efficient vehicle that meets their needs. The EnerGuide for Vehicles program provides the EnerGuide label that appears on new vehicles at car dealers' lots, the *Fuel Consumption Guide* and the EnerGuide Awards for the Most Fuel-Efficient Vehicles each year.

3.6.2.2 Vehicle Operation and Maintenance

There are also significant opportunities to reduce energy use by optimizing the way in which vehicles are operated and maintained. The key to realizing this potential is to ensure that drivers are well informed about the effect of driving behaviour and vehicle operating and maintenance practices on fuel use and costs. The OEE delivers this information to drivers of personal vehicles through the **Auto$mart** program.

Vehicles are also operated in commercial, institutional and industrial fleets, and the OEE's **FleetSmart** program works with fleet operators to improve operating practices and vehicle selection, and to encourage investments in energy efficiency. The OEE ensures federal leadership through the **FleetWise** program, which assists federal departments to decrease fuel use in their own vehicle fleets.

3.6.2.3 Road Transportation Fuels

The major road transportation fuels currently available in the marketplace are propane, natural gas and ethanol. The latter fuel is primarily provided in blends with gasoline (up to 10 percent ethanol). The use of these fuels as a substitute for gasoline and diesel contributes to reductions in full-cycle GHG emissions of up to 25 percent for the gaseous fuels and 35 percent for ethanol on a per-litre displacement basis.

The OEE provides information on the utilization of alternative fuels as part of a general fuels awareness initiative (the **Future Fuels Market Analysis** initiative), as well as a component within its fleet initiatives. The OEE also administers financial incentives for natural gas vehicles and fueling stations through its **Natural Gas for Vehicles Program (NGVP)**. The Government of Canada exempts ATFs from the gasoline excise tax.

Chapter 4. Resources and Budget Allocation

This chapter provides information on the OEE's financial resources and budget allocation in 2000–2001. The OEE's human resources development plan also is outlined.

4.1 Financial Resources

The government has allocated nearly $36 million in ongoing financial resources to the OEE for fiscal year 2000–2001. It is comprised of two parts:

- nearly $18 million in "A Base" funds. These can be re-allocated by the OEE among its programs to improve the overall effectiveness of the OEE in achieving its strategic objective; and
- $18 million in "sunset" funds for programs dealing with commercial and residential energy efficiency ($16 million in regular annual funding plus $2 million which was transferred from 1999–2000). This funding is scheduled to cease March 31, 2004.

In addition to this OEE funding, the OEE administers certain special funding described below. This external funding is not reflected in the Tables and Figures set out in this Chapter because of its temporary nature.

1) Market Development Incentive Payments (MDIP) Fund – The OEE administers incentives under the Natural Gas for Vehicles Program that are financed by this fund. It was created in the early 1980s with receipts from Alberta's natural gas producers to expand markets for Alberta's natural gas. In 1999–2000, the OEE spent $433,000 in contributions.

2) Climate Change Action Fund (CCAF) – In 1999–2000, the OEE received and, in 2000–2001, will receive monies from this fund for four initiatives:

- Climate Change Public Education and OutReach – The OEE was reimbursed $1.81 million in CCAF funds from Environment Canada for expenses incurred last year and expects to be reimbursed $500,000 this year;
- House in Order – The OEE spent $1.73 million of CCAF funds for this initiative last year and received $1.16 million this year;
- Baseline Protection – The OEE spent $173,000 of CCAF funds for this initiative last year and received $361,000 this year; and
- Issue Table Funds – The OEE spent $1.09 million of CCAF funds on the Industry and Building Issue Tables in 1999–2000 and will spend $41,000 on the Industry Table this year.

3) In 1999–2000, the OEE received and transferred to the Federation of Canadian Municipalities (FCM) $50 million for the Green Municipal Investment Fund and $12.5 million for the Green Municipal Enabling Fund. Environment Canada received and transferred to the FCM the same amounts for the same purposes.

In terms of other federal market transformation programs to promote energy efficiency and ATFs, the Department of Finance provides about $95 million per year to purchasers of ATFs through a federal excise tax exemption on propane, compressed natural gas, methanol and ethanol (and the portion of methanol and ethanol in blended gasolines).

4.2 Budget Allocation by Business Line, Business Unit and Energy Use Sector

Table A shows the OEE's budget in terms of its three business lines and corporate services.

TABLE A: OEE Budget by Business Line, 2000–2001

Business Line	Dollars (millions)	Percentage
Market Transformation Programs	22.39	63
Corporate Communications Programs	3.93	11
Policy Advice, Analysis, Information and Data	5.53	15
Corporate Services	3.91	11
Total	**35.76**	**100**

Table B presents the OEE budget by business unit.

TABLE B: OEE Budget by Business Unit, 2000–2001

Market Transformation Programs	Dollars (thousands)
Housing – New	1 230
Housing – Existing	2 980
Equipment	1 300
Commercial and Institutional – New Buildings	3 240
Commercial and Institutional – Existing Buildings	6 362
Government Operations – Federal	749
Industry	3 069
Road Transportation – Private Vehicles	2 005
Road Transportation – Fleet Vehicles	1 135
Road Transportation – Fuels	315
Subtotal (Market Transformation Programs)	**22 385**
Corporate Communications	**3 933**
Policy Advice, Analysis, Information and Data	**5 530**
Corporate Services	**3 913**
Total	**35 761**

Figures 5 and 6 present GHG emissions, and the OEE budget for Market Transformation Programs, by energy end-use sector:

FIGURE 5: Canada's GHG Emissions from End-Use Energy Sector, 1998 (451Mt)

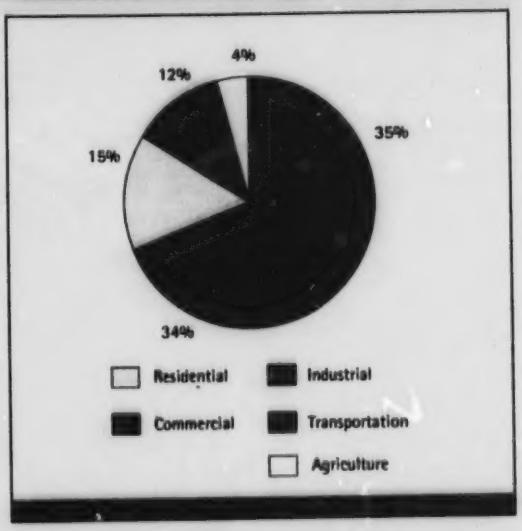
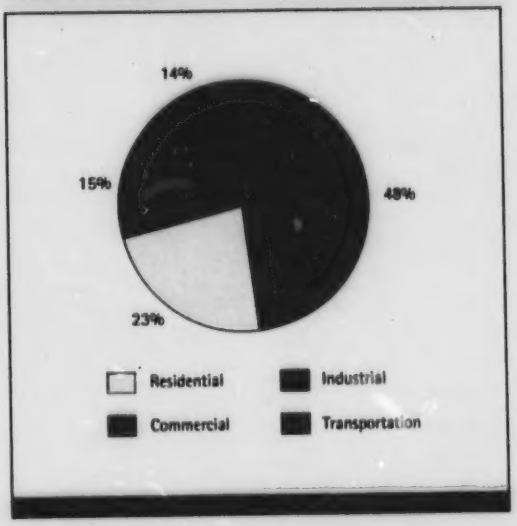


FIGURE 6: OEE Budget – Market Transformation Programs by End-Use Energy Sector ($22.4 Million)



Canada's GHG Emissions, 1998	
End-Use Energy Sector	**Percent**
Transportation	35
Industrial	34
Residential	15
Commercial	12
Agricultural	4
Total	100

OEE Budget – Market Transformation Programs, 2000–2001	
End-Use Energy Sector	**Percent**
Commercial	48
Residential	23
Transportation	15
Industrial	14
Total	100

The OEE's allocation of its resources across energy use sectors is based on the following principles:

- to respect federal jurisdiction (e.g. recognizing its lack of authority to regulate the energy use of buildings or industrial processes);
- to respect any conditions associated with "sunset" funding;
- to be involved in all energy use sectors, so as to establish a strong foundation for realizing the Kyoto target (which will likely require contributions from all parties); and
- to pursue the most economic opportunities for increasing energy efficiency (i.e. to maximize the amount of energy saved per dollar invested).

Figures 5 and 6 (page 27) indicate that the OEE's resources are not allocated across energy use sectors in the same proportion as the GHG emissions represented by these sectors. The industrial and transportation sectors receive proportionately less, and the commercial sector receives proportionately more of the OEE's funding. This difference is due to the following:

- analysis indicates that many of the most cost-effective opportunities for improving energy efficiency are in commercial and institutional buildings; and
- in the mid-1990s, NRCan and the Department of Finance examined and consulted with stakeholders on the barriers and disincentives to sound environmental practices. An outcome of this process was the allocation of "sunset funding" for three energy efficiency programs (totaling $16 million per year). The focus on commercial buildings was, in part, out of recognition that commercial buildings (including HVAC equipment) can be depreciated for tax purposes at only 4 percent compared to 20 to 30 percent for industrial equipment. This potential disincentive to capital investment could be a barrier to improving energy efficiency in this sector.

4.3 Budget Allocation by Business Activity

Table C shows expenditures in 1999–2000 and the OEE budget in 2000–2001 for each business activity (as noted above, it does not reflect external funding received for Natural Gas for Vehicles incentives, Climate Change – Public Education and Outreach, House in Order, Baseline Protection and Issue Tables). In a number of cases, a significant reallocation of resources was made across business activities from last year to this year. Table D presents the more significant cases of resource allocation (i.e. a change in the funding of a business activity from last year to this year of at least $500,000 or 50 percent). It also provides an explanation of how this change will make the OEE more effective in achieving its strategic objective.

TABLE C: Expenditures 1999–2000 and Budget 2000–2001 by Business Activity

Business Activities	1999–2000 Expenditures	2000–2001 Budget	Variance = 2000–2001 Minus 1999–2000	
	($000)	($000)	($000)	Percentage
MARKET TRANSFORMATION PROGRAMS				
Residential Sector				
R-2000 HOME Standard	1 250.00	1 235.00	-15.00	-1.20
Reno$ense	239.00	n/a	-239.00	-100.00
EnerGuide for Houses	2 972.00	2 980.00	8.00	0.30
EnerGuide for Equipment and HVAC	756.00	615.00	-141.00	-18.70
Subtotal (Residential Sector)	**5 217.00**	**4 830.00**	**-387.00**	**-7.42**
Commercial and Institutional Sector				
Federal Buildings Initiative (FBI)	778.80	748.80	-30.00	-3.90

TABLE C. (continued)

	1999–2000 Expenditures ($000)	2000–2001 Budget ($000)	Variance = 2000–2001 Minus 1999–2000 ($000)	Variance = 2000–2001 Minus 1999–2000 Percent
Energy Innovators Initiative (EII)	5 360.30	6 362.20	1 001.90	18.70
Commercial Building Incentive Program (CBIP)	3 075.00	3 240.00	165.00	5.40
Subtotal (Commercial and Institutional Sector)	**9 214.10**	**10 351.00**	**1 136.90**	**12.30**
Industrial Sector				
Industrial Energy Efficiency – Canadian Industry Program for Energy Conservation (CIPEC) and Industrial Energy Innovators Initiative (IEII)	2 319.80	3 069.00	749.20	32.30
Subtotal (Industrial Sector)	**2 319.80**	**3 069.00**	**749.20**	**32.30**
Transportation Sector				
Vehicle Fuel Efficiency	365.00	385.00	20.00	5.50
EnerGuide for Vehicles	1 135.00	820.00	-315.00	-27.80
Auto$mart	838.00	800.00	-38.00	-4.50
FleetSmart	837.60	960.00	122.40	14.60
FleetWise	194.00	175.00	-19.00	-9.80
Future Fuels Market Analysis	171.60	220.00	48.40	28.20
Natural Gas for Vehicles (NGV) incentives	77.30	95.00	17.70	22.90
Subtotal (Transportation Sector)	**3 618.50**	**3 455.00**	**-163.50**	**-4.50**
Multi-Sectoral				
Energy Efficiency Regulations	726.00	685.00	-41.00	-5.60
Subtotal (Multi-Sectoral)	726.00	685.00	-41.00	-5.60
Subtotal (Market Transformation Programs)	**21 095.40**	**22 390.00**	**1 294.60**	**6.10**
CORPORATE COMMUNICATIONS				
Public Information	468.20	780.20	312.00	66.60
Energy Conference and Awards	1 446.10	1 992.00	545.90	37.70
OEE Corporate Strategy	697.30	693.00	-4.30	-0.60
Climate Change – Public Education and Outreach	226.00	463.00	237.00	104.90
Joint EnerGuide	280.60	n/a	-280.60	-100.00
Subtotal (Corporate Communications)	**3 118.20**	**3 928.20**	**820.00**	**26.30**
CORPORATE SERVICES				
Linguistic Services	874.60	525.80	-348.80	-39.90
Internet and Distribution	455.70	413.00	-42.70	-9.40
Program Services	295.00	700.00	405.00	137.30
Finance, Administration and Procurement	1 129.40	981.00	-148.40	-13.10
Director General's Office	534.60	1 292.90	758.30	141.80
Subtotal (Corporate Services)	**3 289.30**	**3 912.70**	**623.40**	**19.00**

TABLE C (continued)

	1999–2000 Expenditures ($000)	2000–2001 Budget ($000)	Variance = 2000–2001 Minus 1999–2000 ($000)	Percent
Policy Advice, Analysis, Information and Data				
National Implementation Strategy on Climate Change	306.00	230.00	-76.00	-24.80
Coordinate Advice on Policies and Programs	1 445.00	1 355.00	-90.00	-6.20
National Energy Use Database (NEUD)	1 446.00	2 500.00	1054.00	72.90
Manage Relations – Government and Key Stakeholders	325.00	505.00	180.00	55.40
Municipal Buildings and Municipal Green Funds	715.00	622.00	-93.00	-13.00
VCR Inc. Liaison and Coordination	145.00	158.00	13.00	9.00
Federal House in Order	29.00	30.00	1.00	3.40
Urban Energy Planning	40.60	115.00	74.40	183.30
Baseline Protection Initiative	n/a	n/a	n/a	n/a
Model National Energy Code	22.00	15.00	-7.00	-31.80
Subtotal (Policy Advice, Analysis, Information and Data)	4 474.10	5 530.00	1 055.90	23.60
TOTAL	31 977.00	35 760.90	3 783.90	11.80

TABLE D: Reallocation of Resources Across Business Activities, 1999–2000 to 2000–2001

Business Activity	Increase or Decrease in Funding		Explanation
	Dollars ($000)	Percent	
National Energy Use Database (NEUD)	1 074	74	To undertake the Commercial Building Energy Use Survey which will enhance the OEE's ability to focus its Commercial Building Incentive Program (CBIP) and to assess the indirect effects of the program.
Energy Innovators Initiative (EII)	1 002	19	To ensure that projects initiated by clients in 1999–2000 will continue to receive funding.
Director General's Office	758	142	To assist with the financial needs of NRCan's Energy Sector and to repay a loan from the Sector to the OEE in 1999–2000.

TABLE D (continued)

Business Activity	Increase or Decrease in Funding		Explanation
	Dollars ($000)	Percent	
Industrial Energy Efficiency	749	32	To better help industry effectively address its important share of GHG emissions by providing additional benchmarking, opportunity guidebooks and extension of the program to the energy supply industry.
Energy Efficiency Conference and Awards	546	38	To increase the size of the conference in light of the success of the first (1999) conference in increasing awareness of energy efficiency.
Program Services	405	137	To enable the Corporate Services Group to provide project management and desktop publishing services to OEE programs.
Public Information	312	67	To carry out new responsibilities for the design, printing and distribution of all consumer-related publications.
Climate Change – Public Education and Outreach	237	105	To enable the OEE to support more strongly this federal initiative.
Manage Relations	180	55	In large part, to shift responsibility for the National Advisory Council on Energy Efficiency (NACEE) from the Director General's Office to a separate Business Activity.
Urban Energy Planning	74	183	To substantially expand policy development work on this new initiative because efficient urban transportation energy use depends on the analysis and planning of land use and transportation infrastructure in urban centres.
Reno$ense	-239	-100	Residential sponsorship activities have been integrated within the EnerGuide for Houses and R-2000 HOME Standard programs.
Joint EnerGuide	-276	-98	To defer this activity in recognition of more immediate priorities.
TOTAL	4 064		

4.4 Human Resources

The OEE's success in 2000–2001 and in the years ahead will be attributable first and foremost to the quality of its personnel. OEE staff are highly educated and skilled professionals. The OEE also depends on agency and contract staff to complement its officers and clerical employees.

There will be important challenges in 2000–2001 and in the next few years for the OEE, in terms of human resource development and people management. First, as demonstrated in this plan, the OEE is and will continue to be at the forefront of one of NRCan's most important files – climate change. This means that the expertise of OEE staff will continue to be heavily used. It also means that constant attention will have to be paid by OEE senior management to human resource development (training and professional development) and recruitment.

In addition, as mentioned in Annex 2, the public service is involved in many management initiatives aimed at the renewal and management of human resources. Some initiatives common to the entire public service are:

- the Universal Classification Standard (UCS);
- Employment Equity and Diversity;
- La Relève;
- modern comptrollership; and
- the Service Canada Initiative.

Some initiatives at the departmental level are:

- the Retention, Rejuvenation and Recruitment (3R) Strategy;
- workload;
- recognition; and
- *The NRCan Guide to Good Management.*

The OEE will have to ensure that its personnel receive information on these initiatives and it will have to make the adjustments that these initiatives require.

Chapter 5. Assessing Performance

5.1 Introduction

The OEE's work to provide better performance information on OEE programs has two principal objectives:

- to improve the OEE's management of its activities; and
- to provide better information to Parliament and OEE stakeholders.

This responds to the 1997 *Report of the Auditor General of Canada to the House of Commons* that recommended improving NRCan's performance information on its energy efficiency initiatives and, in particular, the overall success of NRCan programs in contributing to Canada's climate change goals.

The OEE's work has focused on:

- improving the clarity of program objectives;
- establishing more concrete achievement expectations (output and outcome targets); and
- improving and making more transparent its reporting on results.

In particular, the OEE has:

- developed performance targets and reporting procedures for all of its program initiatives;
- adopted a new indicators' format in the 1996–97 and the 1997–99 reports to Parliament under the *Energy Efficiency Act* that provides additional information on its program performance; and
- developed an aggregate energy efficiency index as a replacement for aggregate energy intensity (which is typically measured as secondary energy use divided by economic output in terms of GDP). Aggregate intensity reflects changes in energy intensity and other factors such as structure and weather. The OEE's index normalizes for these types of influences and more closely reflects changes in energy efficiency.

5.2 Activities in 2000–2001

In 2000–2001, the OEE will continue to expand and improve its performance measurement activities.

- The OEE is fully integrating its business planning, budgeting and performance reporting systems.
- The OEE will develop stronger performance information for each of its program initiatives to monitor progress and improve the linkages between objectives, outputs and outcomes. The OEE is using guidelines and criteria developed by the Office of the Auditor General of Canada for good performance reporting.
- The OEE will conduct some program-specific surveys in an effort to determine the extent to which initiatives have contributed to changing consumer behaviour. These surveys will assist the OEE in developing a clearer understanding of the influence of program initiatives on the changes in energy use that are observed in the market.
- The OEE will conduct the Commercial Building Energy Use Survey (CBEUS) to obtain improved data on the commercial building stock and its energy use.
- By December 2000, the OEE will have estimated the direct and indirect impacts of each of its market transformation programs in terms of energy savings and GHG reductions, where available information supports a clear link between the program outputs (action) and the market outcome (results).
- At this stage, the OEE's focus is on market transformation and corporate communication programs. Work is underway to improve performance measurement for two other areas of activity – policy advice and information, and corporate services.

It is important to remember that measuring performance is an ongoing exercise, a work in progress. Many of the issues raised by the Auditor General are long-term. The OEE's ongoing development of improved performance measures includes:

- refining and revising program objectives, performance indicators and targets as programs evolve;
- conducting more surveys that are program-specific, to separate the program outcome from the market outcome;

- undertaking additional data surveys and improving analysis; and
- improving estimates of the energy efficiency and GHG reduction impacts of its programs.

5.3 Performance Plans

Annex 3 presents the performance plans for each of the OEE's 20 market transformation and corporate communications initiatives.

Annex 1. *Historical Overview*

Natural Resources Canada (NRCan) has a long history of programs promoting energy conservation, energy efficiency and alternative sources of energy. This section reviews how the rationale, focus and approach of NRCan's energy efficiency programs have changed over the years.

Prior to 1973

Until the early 1970s, NRCan was involved principally in providing advice to ministers on issues related to energy and economic development. Few programs were being delivered.

Security of Supply

In the mid- to late-1970s, concern shifted to the security of oil supply in terms of cost and availability. In response to the oil crises of 1973 and 1979, the federal government announced steps to promote energy conservation. This encouraged lifestyle changes to reduce the consumption of energy; for example, people were encouraged to turn down their thermostats and turn off unnecessary lighting.

The 1980s

The Department's expenditures on energy efficiency and alternative energy programs grew significantly during the early 1980s, largely because of the National Energy Program. Provincial governments and the federal government used grant programs, especially in residential housing. These programs aimed to persuade Canadians to become more energy-efficient and to offset the reduced profitability of energy conservation investments caused by the regulation of energy prices below world levels.

By the mid-1980s, however, energy prices had been deregulated and had fallen, resulting in less concern about the security of the energy supply. Consequently, all levels of government reduced funding for energy conservation and alternative energy activities. The Department reduced or abandoned most of its energy conservation programs and refocused its efforts on research, development and marketing research. Figure 7 shows how funding for energy efficiency and alternative energy programs has fluctuated, especially during the 1980s.

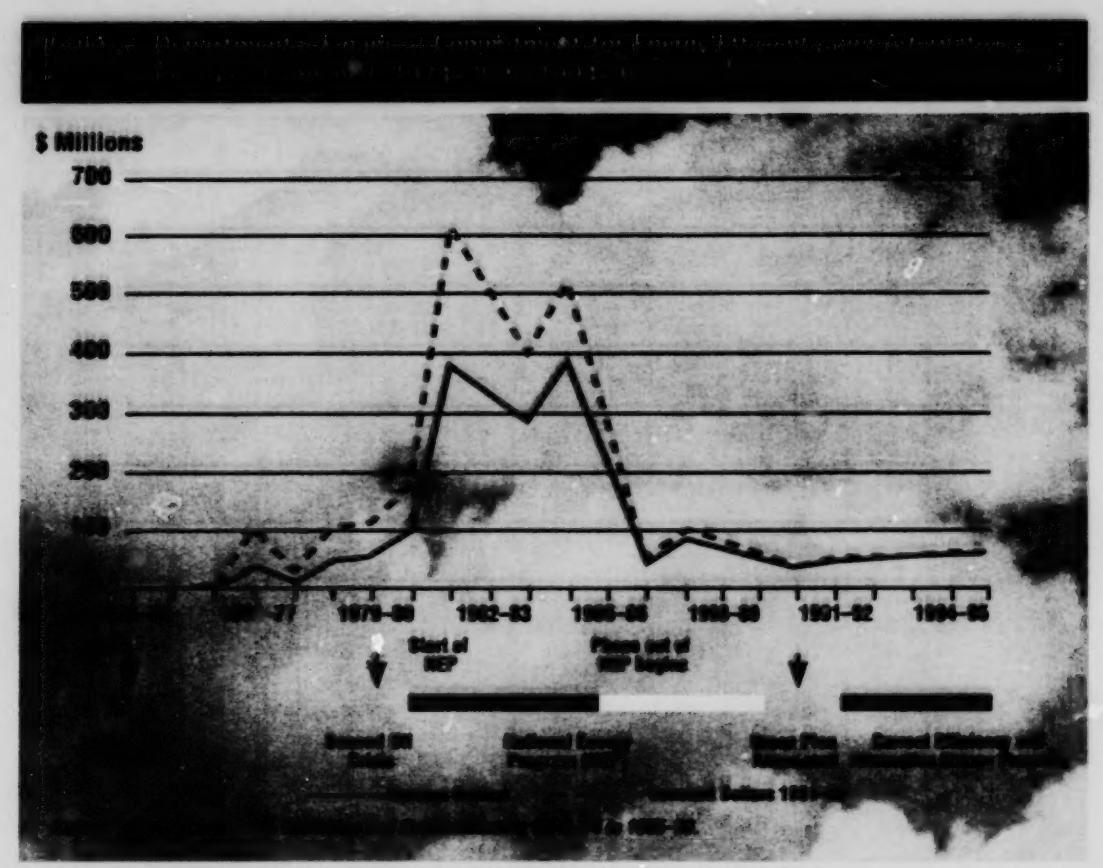
Environmental Concerns

By the late 1980s, the effect of fossil fuel combustion and GHG emissions on climate change was becoming a worldwide concern. In response to this and other environmental issues, the federal government announced Canada's Green Plan for a healthy environment in December 1990. The Green Plan reported and outlined Canada's commitment to stabilize GHG emissions at 1990 levels by the year 2000. To work toward this objective, the Green Plan stated that short-term emphasis would be placed on improving energy efficiency across a broad spectrum of end uses.

In June 1991, the Department received approval from the Treasury Board of Canada to implement the Efficiency and Alternative Energy (EAE) Program. The objective was to support the Green Plan and the National Action Strategy on Global Warming. The program included a set of energy efficiency initiatives that collectively dealt with all end-use sectors (residential, commercial, industrial and transportation) and all conventional sources of energy. It emphasized improving energy efficiency by promoting the wiser use of energy without sacrificing the benefits of energy use or requiring major lifestyle changes.

In June 1992, the federal government enacted the *Energy Efficiency Act*. The Act gave NRCan the authority to recommend and enforce regulations concerning the energy efficiency of energy-using products, and restated the Department's authority to promote energy efficiency and alternative energy sources.

In 1995, the Voluntary Challenge and Registry (VCR) Program was established as a key part of Canada's National Action Program on Climate Change. The program existed as part of NRCan until 1997 when it was devolved as a private–public sector partnership. It is now known as VCR Inc.



Reproduced from Chapter 10 of the *Report of the Auditor General of Canada, April 1997*

Increased Responsibilities

In the federal budget of February 1997 the Minister of Finance announced that, starting in fiscal year 1998–99, $60 million would be provided over a three-year period to support program initiatives for improved energy efficiency and renewable energy measures. This new funding affected three branches of the Energy Sector, especially the OEE. As a result, in 1998–99 the OEE formally received an additional $16 million per year in its budget to implement three new initiatives:

- the EnerGuide for Houses program;
- the Commercial Building Incentive Program (CBIP); and
- Energy Innovators Plus.

Some of this additional funding has supported an increase in administrative activities to strengthen the effectiveness and reach of existing programs.

In the February 2000 federal budgets this unset funding for the OEE was extended for an additional three years to March 31, 2004.

Recent Developments

Pursuant to the *United Nations Framework Convention on Climate Change* (Rio de Janeiro, 1992) and the Berlin Conference (1995), the Parties to the *United Nations Framework Convention on Climate Change* met in Kyoto, Japan, from December 1 to 10, 1997. Many participating countries agreed to reduce GHG emissions to 1990 levels by the period 2008 to 2012. Canada pledged to reduce its emissions by six percent below 1990 levels.

At a federal–provincial conference of First Ministers held later that month, energy and environment ministers were asked to develop a new strategy within two years to meet the Kyoto Protocol targets. The National Climate Change Secretariat was established to coordinate this work and to support the development of a national implementation strategy to meet the Kyoto targets.

In the same month (December 1997), Natural Resources Minister Ralph Goodale announced the creation of the OEE. Its mandate: to renew, strengthen and expand Canada's commitment to energy efficiency in order to help address the challenges of climate change, with specific emphasis on the Kyoto Protocol. The OEE officially commenced operations on April 1, 1998.

Annex 2. Planning Context

2.1 Introduction

The operations of the OEE are shaped by three elements:

- NRCan's and the Energy Sector's planning framework;
- the OEE's clients and partners; and
- the OEE's business environment.

This annex presents these key elements.

2.2 Departmental and Sectoral Planning Framework

2.2.1 NRCan Planning Framework

NRCan's policy goals align its mandate with the federal government's priorities. *Natural Resources Canada 2000–2001 Estimates: A Report on Plans and Priorities* lists five departmental policy goals. Each of these goals is shown below. Goal 5 is a management goal common to all federal departments, supported by the practice of business planning. OEE programs contribute to the first three policy goals, but more particularly to Goal 3 because greater energy efficiency and use of alternative transportation fuels contribute to minimizing the impacts of energy use (i.e. emissions of GHGs) on the environment.

2.2.1.1 NRCan Policy Goals

Goal 1
To enable Canadians to make balanced decisions regarding natural resources.

Goal 2
To sustain the economic and social benefits derived from natural resources for present and future generations.

Goal 3
To minimize the environmental impacts of natural resource development and use.

Goal 4
To contribute to the safety and security of Canadians.

Goal 5
(common to all federal departments):
To manage the Department efficiently and effectively.

(Source: *2000–2001 Estimates – Part III: A Report on Plans and Priorities*, page 9.)

2.2.2 Energy Sector Planning and Performance Framework

The Energy Sector has developed a planning and performance framework that outlines how its mission will be carried out in support of the government's priorities and the Department's policy goals. All branches in the Energy Sector, including the OEE, are expected to mirror the Sector's goals and strategic objectives in their own business plans and to develop performance measures that demonstrate progress in meeting them. The OEE's priorities, activities and performance measurement in 2000–2001 will directly respond to the Energy Sector's imperatives as set out in the *Energy Sector Business Plan 1999-2002.*

2.2.2.1 Energy Sector Mission

The Energy Sector's mission statement reflects the Sector's intention to pursue sustainable development in a way that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. The mission of the Energy Sector is "A Better Energy Future for Canada."

Through its policies, programs, science and technology and international work, the Sector helps address the climate change challenge; promotes better environmental and consumer choices; contributes to technological innovation, job creation and economic growth; facilitates environmental protection and increased public safety and security; and helps to ensure a competitively-priced, secure and reliable energy supply for Canadians.

2.2.2.2 Energy Sector Priorities

Priorities of the Energy Sector are defined at three levels:

(1) Business Priorities

The Energy Sector contributes to sustainable development in three ways: economic development, environmental stewardship and social well-being. In the area of environmental stewardship, domestic environmental priorities for the Energy Sector range from end-use issues – such as using cleaner fuels – to development issues affecting the future of offshore oil and gas. Internationally, the focus is on promoting policies and practices that minimize the environmental impact of energy use. Climate change and nuclear waste issues dominate the short- to mid-term policy agenda. The overarching challenge is how to address Canada's Kyoto commitment without hampering Canada's economic activity.

(2) People and Organizational Development Priorities

The greatest challenge for the Energy Sector in personnel management will be implementing the Universal Classification Standard (UCS). Although this initiative will help maintain a flexible and adaptable work force, it represents a big commitment for managers and a significant change for all employees. It will be important for all employees in the Sector to be informed about the UCS and its implementation process. At the same time, the process of organizational renewal continues through the development of a departmental Retention, Rejuvenation and Recruitment (3R) Strategy. Part of this strategy is to review capacity of the science and technology, policy and other communities to meet present and future work challenges and requirements.

(3) Corporate Management Priorities

The Energy Sector acts corporately in several ways, most noticeably by leading or supporting initiatives beyond its mandated areas of responsibility; but equally important is the way the Sector conducts its business. Hence, the Sector's contribution extends throughout its corporate activities and priorities and includes:

- the Minister's action plan for "Winning in the Knowledge-Based Economy" (known as WINS);
- Treasury Board of Canada Secretariat's modernization of comptrollership initiatives; and
- the "ResSources" knowledge initiative.

Readers who wish to know more about these initiatives are invited to consult *Natural Resources Canada 2000–2001 Estimates: A Report on Plans and Priorities* or the *Energy Sector Business Plan 1999–2002.*

2.3 Clients and Partners

The mandate of the OEE is to communicate the importance and value of energy efficiency and alternative transportation fuels, and to advise Canadians on energy efficient actions they can take. The OEE's clients and partners help it to achieve these objectives while treating all citizens fairly and equitably.

The following sections discuss the OEE's clients and partners. The list includes the Canadian public and a wide range of government and industry representatives.

2.3.1 The Canadian Public

As an element of operational effectiveness, the OEE considers the public in general to be distinct from particular clients. All Canadians have a stake in the economic well-being and environmental health of the nation. The public service is dedicated to serving the interests of Canadians as a whole. In contrast, a particular client might seek to maximize its individual advantage. If unsatisfied, the client is free to end its relationship with the OEE. It is also possible that some client objectives are contrary to the greater social good. Therefore, the OEE is free to dissolve relationships with particular clients because of its wider obligation to all Canadians.

2.3.2 The Minister of Natural Resources

The OEE is responsible for ensuring that the Minister is well informed on issues related to energy efficiency and alternative transportation fuels. It is also responsible for providing information and analyses necessary for political decision making. Advice to the Minister must be timely, accurate and appropriate in level of detail.

The Minister is the OEE's most important ambassador in the cause of sustainable development. The Minister's presentations and attendance at public and industry events demonstrate the priority the Government of Canada places on energy efficiency improvement. Industry partners are motivated and encouraged to take further action by the Minister's public recognition of their achievements.

2.3.3 Industry, Professional and Voluntary Associations

Industry associations are key partners in the delivery of OEE programs. Some examples of these are: the Retail Council of Canada; the Association of Canadian Community Colleges; the Canadian Home Builders' Association; the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI); the Canadian Pulp and Paper Association; the Canadian Steel Producers Association; the Electric Vehicle Association of Canada; and the Canadian Vehicle Manufacturers' Association. Non-government funding for energy efficiency programs is limited. Without NRCan's contributions, the amount of energy efficiency promotion activities by industry associations would be negligible.

NRCan is the dominant national player and coordinator in promoting energy efficiency to client organizations and individuals in the transportation, residential, industrial, commercial and institutional sectors.

The OEE intends to expand its partnerships with national and provincial associations, such as those for professional engineers and architects.

2.3.4 Internal Partners

Internal partners share a common interest. The OEE works with several Energy Sector and NRCan branches, both on specific initiatives and in terms of complementary technical, policy and administrative support. The OEE works with several internal partners:

- The Energy Policy Branch (EPB) provides intelligence and guidance on departmental, interdepartmental and broad government policy developments that affect the OEE. The OEE provides the EPB with information on current policy and program developments in energy efficiency and alternative transportation fuels, and on analyses and options for policy and program adjustments. A similar exchange of information and advice serves numerous international energy files.
- OEE officials work with colleagues in the Energy Resources Branch to maintain a coordinated approach on shared issues (e.g. vehicle fuel choice and energy systems) and to ensure an appropriate integration of renewable energy policies and programs with those of the OEE.
- CANMET's Energy Technology Branch's (CETB) objective is to assist in the development of technologies that have a significant impact on total energy use and are economically attractive to energy users. The CETB provides technical support and advice for many OEE programs. OEE policy advice contributes to the CETB's planning of science and technology activities. In some areas, OEE and CETB activities are explicitly linked to form an integrated program.
- The Sector's Management Services Division (MSD) provides service and advice to the OEE in a number of areas, including financial management, human resources administration processes, planning, executive correspondence and intellectual property management. The OEE provides input to Energy Sector projects and files managed by MSD (e.g. the *Energy Sector Business Plan*).
- The OEE frequently works with NRCan's Communications Branch on ministerial events, speeches, press releases, public opinion research, advertising and other information or marketing activities. The OEE also provides input to corporate and interdepartmental files managed by the Strategic Planning and Coordination Branch. Some of the OEE's programs, primarily the Federal Buildings Initiative and the FleetWise program, require close cooperation with NRCan's Asset Management and Administrative Services Branch.

2.3.5 Other Federal Departments and Agencies

The OEE and its predecessors have worked for many years with other federal departments and agencies to deliver programs and to provide policy advice. The OEE's key federal partners are Environment Canada, Transport Canada, the Canada Mortgage and Housing Corporation, the National Research Council of Canada, Public Works and Government Services Canada, Treasury Board of Canada Secretariat, Finance Canada and Statistics Canada.

2.3.6 Other Levels of Government as Promoters of Energy Efficiency

Provincial and Territorial Ministries of Energy

Jurisdiction over energy policy is divided between the federal and provincial–territorial governments. Provinces and territories are responsible for the management of their own energy resources. The OEE considers provincial and territorial ministries of energy to be partners as well as clients sharing a common interest. Communication and coordination mechanisms serve to inform the provinces and territories of cross-boundary issues and NRCan's policy, program and regulatory activities. The OEE, through its federal–provincial and federal–territorial mechanisms (e.g. letters of cooperation), aims to avoid program duplication and find opportunities to co-deliver programs. In recent years, however, most provincial and territorial governments have responded to deficit reduction pressures by reducing energy efficiency programs' personnel and funding.

The Municipal Sector

The Federation of Canadian Municipalities (FCM) includes 700 of the largest municipalities across Canada. Members of the FCM promote measures to reduce GHG emissions and energy use by their communities. Ongoing cooperation between the Federation and the OEE ensures that information on energy efficiency is shared with and disseminated to municipalities.

2.3.7 Other Levels of Government as Custodians of Assets

The custodial departments of provincial and territorial ministries, which are responsible for buildings and vehicle fleets, are clients of the OEE programs that limit emissions from government operations. At the municipal level, the OEE promotes municipal fleet and building energy efficiency measures primarily through the Federation of Canadian Municipalities and also through direct contacts.

2.3.8 Energy Utilities

Electrical

The demand-side management programs of Canadian electric utilities and their support for standards development have been significantly reduced in recent years. Power Smart Inc., an energy efficiency marketing firm funded by a number of electrical utilities, suspended its operations in 1996. Some electrical utilities still conduct significant energy efficiency marketing programs.

Natural Gas

The natural gas industry in Canada is aggressively seeking new markets. Some companies are active in marketing energy efficiency initiatives – especially in residential applications – and are potential OEE partners. In the transportation sector, natural gas used as a diesel fuel replacement offers GHG reduction benefits (in the 20 percent range) and reductions of emissions of NO_x, particulates and toxic gases (precursors for urban smog formation). Decisions to use natural gas are often based on price, rather than concern for energy efficiency improvements or climate change. Nonetheless, opportunities for partnership exist in areas where benefits can be identified for reducing GHG emissions.

The distribution infrastructure for natural gas is almost non-existent in Eastern Canada. The transcontinental pipeline now ends at Lévis, near Québec. However, natural gas will become available soon from the Atlantic coast (Sable Island, Nova Scotia). This will improve prospects for this source of energy in the Atlantic provinces and eastern Quebec.

2.4 Business Environment

The operations of the OEE are also shaped by the OEE's business environment. This section describes the major external factors that will influence the OEE's program and policy development activities this year. An environmental scan is an analysis of the factors (strengths, weaknesses, opportunities and threats) that affect an organization and its direction. These factors can be political, social, economic, technological or environmental. These factors include Canada's international commitments regarding climate change, energy prices, the economy, recent changes in activities by traditional partners, regulations and government funding.

2.4.1 Climate Change and Canada's International Commitments

Climate change has been described as a test case for ustainable development and the management of horizontal files. Although Canada is working toward a six percent reduction in GHG emissions from 1990 levels by the period 2008–2012, the demand for energy – and the resulting emissions – continues to increase because of population growth, economic growth and the relatively low cost of energy. Major contributors to GHG emissions are the transportation and industrial sectors.

Climate change is expected to remain prominent on the government's agenda. The climate change file is becoming more complex as the focus changes from the consultation process to the development of an action plan for federal, provincial and territorial energy and environment ministers to consider in fall 2000. The Energy Sector and the OEE will be called on to develop and deliver much of the government's response to Canada's climate change commitments made in Kyoto. At the same time, achieving the targeted emissions reduction will require considerable commitment on the part of the public as consumers, on the part of industry as energy producers and users, and by all levels of government.

2.4.2 Energy Prices

In response to OPEC production cuts, crude oil prices rose from the low prices experienced for most of the 1990s, almost tripling in 1999. In early 2000, prices settled back somewhat after OPEC agreed to increase output. Market fundamentals suggest that, despite these recent fluctuations, oil prices are expected to remain roughly constant in real terms to 2010.

Retail energy prices in Canada are low in comparison to most member countries in the Organisation for Economic Co-operation and Development (OECD). This is partly due to Canada being a major producer of energy. Energy prices have been relatively stable since the beginning of the decade and are not expected to increase for the next 10 to 15 years.

The OEE is committed to promoting energy efficiency measures where they make economic sense. Its role is particularly important when energy prices are low. With low retail energy prices, the optimum economic level of energy efficiency is significantly less than the efficiency levels that are technically possible. As a result, low energy prices make energy efficiency initiatives less of a priority for energy users.

2.4.3 The Economy

Interest rates are currently at 30-year lows and the annual inflation rate has been around two percent for the past four years. The growth rate of the gross domestic product has averaged 3.7 percent over the past three years and was 4.2 percent in 1999. The Canadian economy between 2000 and 2010 is expected to experience an average annual growth rate of 2.3 percent. As the economy grows, so too does the demand for energy. Total end-use demand for energy is projected to rise by 13 percent (or almost one percent per year) between 1997 and 2010 in a business-as-usual scenario.

2.4.4 Reduction in Energy Efficiency Activities Among Traditional Partners

Nine of the 13 provincial and territorial energy departments have energy efficiency and/or ATF programs. Following a substantial decline in EAE activities in the mid-1990s, budgets remained stable until about 1998. In the last two years, however, there has been a major increase in the EAE budgets of at least three jurisdictions – Quebec, the Yukon and the Northwest Territories. In particular, the budget of the Agence de l'efficacité énergétique of Quebec increased from $2.5 million in 1998–99 to $9 million in 2000–2001. This increase in activities by some governments has increased opportunities and the need for coordinated action with other jurisdictions.

In the case of energy utilities, some regions have practically eliminated their demand-side management programs and have reduced their marketing efforts for ATFs.

2.4.5 Regulatory Environment

The *Energy Efficiency Act* came into effect in January 1993. The Act gives NRCan the authority to recommend and enforce regulations concerning the efficiency of energy-using products, and to promote energy efficiency and alternative energy sources. Its authority to regulate equipment pertains to the interprovincial and international movement of energy-using equipment. Provincial regulations, where they exist, apply to equipment and products manufactured and sold within a province.

The OEE supports the development of efficiency standards for energy-using equipment and houses and other buildings. The availability of standards helps provinces develop their own regulations. Currently, five provinces have equipment regulations, five provinces regulate energy efficiency levels in new houses and one province (Ontario) and one city (Vancouver) regulate energy efficiency in new buildings. At the same time, industry is becoming more global and there is growing pressure on the federal government to remove barriers to international trade and investment. The OEE has been working with other countries, especially the U.S., to harmonize energy efficiency testing procedures, standards and regulations for equipment. The OEE and the U.S. Department of Energy, through a memorandum of understanding, have agreed to work together to harmonize North American policy regarding motor vehicle fuel efficiency.

2.4.6 Federal Budget 2000

The 1997 federal budget announced new energy efficiency funding for the OEE of $16 million per year over three years commencing April 1, 1998. This "sunset" funding resulted in new OEE initiatives to provide financial incentives for energy efficiency improvements in new commercial buildings (Commercial Building Incentive Program or CBIP); encourage commercial building retrofits (Energy Innovators Plus); and provide for the energy efficiency evaluation and labelling of houses (EnerGuide for Houses). The 2000 budget extended this funding for the OEE for three years, up to March 2004.

The 2000 federal budget provided funds for municipalities which will involve the OEE:

- The Green Municipal Enabling Fund ($25 million) is a five-year fund that will provide grants to cost-share audits and feasibility studies for projects designed to reduce GHG emissions and improve air and water quality, as well as to encourage the sustainable use of renewable and non-renewable resources.
- The Green Municipal Investment Fund ($100 million) will provide loans and loan guarantees to enable recipients to carry out, among other things, direct energy efficiency measures such as the retrofitting of buildings and public transit systems that will result in reduced GHG emissions. Demonstration projects will be eligible for grants sourced from the fund's accumulated interest.

The funds will be operated by the Federation of Canadian Municipalities (FCM) at arm's length from the federal government. The OEE and representatives of Environment Canada are working closely with the FCM as they develop and establish the management structure to support the operation of the funds. The FCM Board will appoint the councils and committees that will oversee the operation of the funds. The OEE will coordinate NRCan's nominations for the councils and committees. It is expected that the FCM will receive applications through the summer, with the first application deadline set for September 1, 2000 and the first projects to be approved in December 2000.

The budget also extended for three years – until March 31, 2004 – the $150 million funding for the Climate Change Action Fund (CCAF), which supports some public outreach and education activities of the OEE.

Annex 3. *Performance Plans of OEE Programs*

This annex presents the performance plans of the OEE's 16 market transformation and four corporate communications programs (business activities). Each plan presents the following information:

- Objective
- Description
- Launch Date
- Budget for 2000–2001
- Outputs – the direct products and services produced by government activities (e.g. information provided, reports produced, advice given, number of people processed, cheques delivered). The plans include the outputs deemed most relevant to achieving the desired outcome.
- Outcomes – the impacts and effects of the OEE's outputs on the behaviour of target groups (individuals and organizations). These include, in some cases, both intermediate and final outcomes (e.g. the intermediate outcome of making a house more energy-efficient can lead to the ultimate outcome of reducing energy use, operating costs and GHG emissions).
- Indicator – the unit in which the output or outcome is measured.
- Target – the level of activity planned or aimed for by the end of March 2001 (sometimes it is presented as the annual activity and sometimes as the cumulative).
- Results – the most recent results available for the period ending March 31, 2000 (this information is not available for the corporate communications programs).

Annex 3 includes the performance plans for the following business activities, organized by business unit:

Market Transformation Programs

Housing – New
R-2000 HOME Standard

Housing – Existing
EnerGuide for Houses

Equipment
Energy Efficiency Regulations
EnerGuide for Equipment and HVAC

Commercial and Institutional – New Buildings
Commercial Building Incentive Program (CBIP)

Commercial and Institutional – Existing Buildings
Energy Innovators Initiative (EII)

Government Operations – Federal
Federal Buildings Initiative (FBI)

Industry
Canadian Industry Program for Energy Conservation (CIPEC)
Industrial Energy Innovators Initiative (IEII)

Road Transportation – Private Vehicles
Auto$mart
EnerGuide for Vehicles
Vehicle Fuel Efficiency

Road Transportation – Fleet Vehicles
FleetSmart
FleetWise

Road Transportation – Fuels
Future Fuels Market Analysis
Natural Gas for Vehicles Program (NGVP)

Corporate Communications

OEE Corporate Strategy
Public Information
Energy Efficiency Conference and Awards
Climate Change – Public Education and Outreach

R-2000 HOME Standard

Objective

To increase market adoption of energy efficient new houses by promoting changes in construction practices.

Description

The R-2000 HOME Standard is a technical performance standard that encourages Canadian builders to build houses that are more energy-efficient and environmentally responsible than required by current Canadian building codes. To ensure that every R-2000 home meets the required energy performance standard, NRCan trains and licenses home builders and other professionals across Canada in R-2000 construction techniques and practices, and provides third-party quality assurance by certifying every R-2000 home.

Ongoing research and periodic revisions, in collaboration with industry partners, ensure that the R-2000 standard maintains its leading-edge position in the housing technology market. NRCan manages the R-2000 HOME Standard program in collaboration with partners across Canada, such as the Canadian Home Builders' Association (CHBA), regional home builders associations, provincial and territorial governments, energy utilities, and financial institutions. The program consists of several components:

- an energy efficiency standard for new houses that is continually upgraded;
- comprehensive training for house builders;
- a rigorous quality assurance program for all R-2000 house construction;
- the testing and certification of new houses; and
- promotional activities aimed at home builders and buyers.

Product manufacturers, equipment suppliers and other private sponsors market the R-2000 HOME Standard program in return for the publicity associated with the R-2000 name. The scope of the program grows with the changing needs of consumers to address issues beyond energy efficiency, such as indoor air quality, healthier homes, flex-housing and technological advancement. The program impact has spread far beyond the nearly 9000 R-2000 homes constructed to date. Many energy efficiency characteristics, first seen in R-2000 houses, now appear in a significant proportion of newly constructed houses.

Launch Date

January 1982

Budget, 2000–2001

$1.24 million

Performance Plan — R-2000 HOME Standard

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Stakeholder funding for delivery of R-2000 in regions across Canada.	Number of contribution agreements.	Contribution agreements ranging from $15,000 to $70,000 in place in all provinces and with HRAI and CHBA.	Contribution agreements exist for delivery of R-2000 in all provinces.
Training for R-2000 professionals and builders to new R-2000 Standard.	Percentage of active R-2000 licensed builders and professionals trained to new standard.	Train all active (106) R-2000 professionals and 313 builders to new standard.	1999 survey of CHBA member builders found: • 35 percent have taken R-2000 training; • 30 percent became licensed R-2000 builders; • Only 15 percent registered R-2000 houses in last three years
Quality assurance (QA) process.	New QA process developed. Administrative guidelines updated.	Revised and streamlined QA process in place across Canada.	Process is being revised and streamlined to reflect new standard.
R-2000 database.	Updated database.	Link professionals from Web sites to database.	Database is being updated with accurate information from provinces and territories.
OUTCOMES			
Construction of R-2000 houses.	Number of R-2000 certified houses as share of total Canadian housing starts.	Ensure share remains above 0.1 percent.	1997 = 502 (0.341 percent) 1998 = 364 (0.265 percent) 1999 = 235 (0.160 percent)

Performance Plan – R-2000 HOME Standard (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Improved energy efficiency of new houses (i.e. reduce GJ/m²).	Estimated energy intensity of average new houses.	By 2010, increase average energy efficiency of new houses to 80 points (current R-2000 standard) as measured by EnerGuide for Houses rating scale.	Conventional new houses currently rate 70 to 73 points.
Permanently change housing construction practices to make new houses more energy efficient.	Share of R-2000 "energy efficient" technologies in new houses: • high performance windows • heat recovery ventilators (HRVs) • high efficiency furnaces	Increase share to 100 percent by 2010.	1999 Pulse Survey found that builders' non-R-2000 houses always or frequently have these features: • 70 percent high performance windows • 50 percent HRVs • 65 percent high efficiency furnaces

EnerGuide for Houses

Objective

To encourage Canadians to improve the energy efficiency of their homes.

Description

The EnerGuide for Houses Program encourages Canadians to improve the energy efficiency of their homes, especially when undertaking home renovation and maintenance projects. At the request of the homeowner, a qualified energy advisor gathers energy-related information during a site inspection and undertakes a computerized analysis of the house's energy efficiency. The energy advisor gives the homeowner a report that includes an estimate of the house's annual energy requirements, recommended energy efficiency improvements, and a label with an energy efficiency rating — the Home Energy Rating. The report can be used to:

- plan energy improvements and renovations;
- qualify for home improvement loans;
- qualify home buyers for "green mortgages" by financial institutions; and
- compare the EnerGuide ratings of different houses, when selling or buying a home.

The homeowner can obtain a second rating after renovations to measure the improvement in energy performance. This program raises consumer awareness of the benefits of energy efficiency, such as cost savings, improved comfort and indoor air quality, durability and the resale value of a house. Third parties deliver the program under licence from NRCan. They hire and train energy advisors and quality control personnel, and provide local marketing and delivery. NRCan provides national coordination, technical support, quality assurance, software tools and training, generic information materials and national marketing.

Launch Date

April 1998

Budget, 2000–2001

$2.98 million

Performance Plan — EnerGuide for Houses

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Home evaluations and labels.	Number of houses evaluated and labelled.	5000 in 1998–99 7377 in 1999–2000 10 000 in 2000–2001	5000 in 1998–99 9500 in 1999–2000
OUTCOMES			
Homeowners implement energy-efficient retrofits.	Share of houses evaluated that implement energy efficiency improvements.	Recommended energy improvements undertaken in 50 percent of homes evaluated.	Quality assurance audit of houses evaluated revealed that 70 percent of homeowners implemented one or more retrofit actions after evaluation.
Homeowners improve energy efficiency of Canadian low-rise housing.	Estimated energy savings and change in intensity before and after retrofit of evaluated homes (measured in GJ/m^2 per year based on second evaluation).	Improve average efficiency of houses that undertake retrofit activity by 20 percent.	January 2000: Average annual energy savings of 11.5 percent estimated for houses that undertook some retrofit activities.

Energy Efficiency Regulations

Objective

To eliminate the less energy-efficient models of equipment from the market through minimum performance regulations under the *Energy Efficiency Act.*

Description

The Regulations are based on national consensus standards on testing procedures for determining the energy performance of the equipment. NRCan fosters the development of these standards by funding and participating in nationally accredited standards writing committees administered by the CSA International.

To date, the federal government has promulgated four sets of regulations. The first set, covering 20 products (mainly residential), took effect in February 1995. The second set, covering a variety of lamps for use mainly in the residential and commercial sectors, came into force in February 1996. The first two sets of minimum energy efficiency regulations apply to energy-using products that account for approximately 73 percent of residential energy demand.

The third set of regulations, which came into force in November 1997, established higher performance levels for 1 to 200 hp electric motors which are mainly used in the commercial and industrial sectors. The most recent set of regulations, also in harmony with the U.S. and Canadian provinces, came into force December 31, 1998, and addresses the efficiencies of a wide variety of equipment mainly used in the commercial sector. The *Guide to Canada's Energy Efficiency Regulations* provides an up-to-date description of regulated products, prescribed efficiency levels and test standards.

The general steps in the regulation development process include:

- a preliminary product review to determine the energy efficiency opportunities for new products;
- determining the strategy and timetable for action;
- developing and finalizing the test standard;
- collecting market data and assessing the economic impact of alternative efficiency levels;
- determining the appropriate minimum efficiency level;
- consultation with industry;
- pre-publishing the Regulation; and
- publishing the Regulation.

Launch Date

September 1992

Budget, 2000–2001

$685,000

Performance Plan – *Energy Efficiency Regulations*

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
New and revised minimum energy performance standards for energy-using products shipped interprovincially or imported into Canada.	Number of regulated products and their share of energy use. Prescribed performance levels.	Pre-publish regulations for four products: • ballasts; • dry transformers; • lamps; and • room air conditioners.	Completed consultations and analysis on natural gas furnaces. Completed analysis and consultations on liquid and dry transformers. Drafted more stringent (by 25 percent) refrigerator standard and Regulatory Impact Analysis Statement (RIAS).
Departmental regulatory priorities maintained.	Percentage of import documents of Section 5 reports (under the *Energy Efficiency Act*) processed within acceptable time frame.	Process 100 percent of import documents within two months of receipt. Process all Section 5 reports within two weeks of receipt.	
	Percentage of compliance case load dealt with within acceptable time frame.	Initial response within two weeks to all reported cases of noncompliance.	
	Number of standards referenced in Regulations that are updated.	Twenty national standards updated.	

Performance Plan – *Energy Efficiency Regulations* (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
To eliminate less energy-efficient equipment from Canadian marketplace. A market for efficient new household and commercial products as soon as they become economic.	Estimated annual energy savings (comparison of energy use for new sales) before and after regulation. Energy use per unit of time (i.e. year) of product operation.	Energy savings estimates are required for Regulatory Impact Assessment Statement. Ensure that Canadian market for energy-efficient products improves as quickly as adoption of economic technologies will permit.	

EnerGuide for Equipment and HVAC

Objective

To promote the production, purchase and use of more energy-efficient equipment (major electrical household appliances, as well as heating, ventilation and air conditioning equipment).

Description

Regulations under Canada's *Energy Efficiency Act* require that new, major electrical household appliances and room air conditioners display an EnerGuide label on the front of the product before the first retail sale. The EnerGuide label gives the energy rating of the product, based on a standardized test procedure, and compares it on a scale with the ratings of the most and least efficient products in the same size and class. The EnerGuide for Equipment and HVAC Program works closely with manufacturers and dealers to ensure compliance with the regulations. The program provides annual updates to manufacturers and dealers as to the information to include on the EnerGuide labels, and to the product directories which list the EnerGuide ratings of all major electrical household appliances and room air conditioners sold in Canada. NRCan conducts promotional and instructional campaigns to raise awareness of the EnerGuide label by both consumers and trade groups.

A second component of the EnerGuide for Equipment and HVAC Program is the EnerGuide HVAC Energy Efficiency Rating System. Co-managed by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI), this program requires that manufacturers of gas and propane furnaces, central air conditioners and air-source heat pumps include an EnerGuide rating on the back of their product brochures. The ratings are based on standardized testing procedures, and are compared on a scale with the ratings of the least efficient and most efficient models sold in Canada. HRAI is responsible for informing manufacturers and dealers of the requirements of the EnerGuide HVAC Energy Efficiency Rating System; monitoring the use of the EnerGuide rating; and reporting to NRCan the weighted average energy efficiency ratings of HVAC products sold in Canada on a bi-annual basis. NRCan organizes promotional and instructional campaigns to raise awareness of the benefits of more energy-efficient heating and cooling products.

Launch date

EnerGuide for Equipment: 1978
EnerGuide for HVAC: April 1996

Budget, 2000–2001

$615,000

Performance Plan – EnerGuide for Equipment and HVAC

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
EnerGuide label for major household appliances and room air conditioners.	Number of products for which label is prescribed.	Re-evaluate and increase, where feasible, number of prescribed products.	February 2000: Seven products labelled – refrigerators, freezers, cooking appliances, dishwashers, clothes washers, clothes dryers and room air conditioners. Feasibility study conducted to determine labelling potential for gas fire places, water heaters and commercial boilers.
EnerGuide promotional information.	Level of understanding and use of the EnerGuide label in purchase decisions.	Increase the understanding and use of EnerGuide label by consumers and sales people.	1999: Established joint EnerGuide committee to promote EnerGuide label as best and most credible source of information on energy efficiency of products and services.
	EnerGuide Month (May).	Promote program nationwide and increase awareness of benefits of buying more energy-efficient appliances.	1999: Over 100 articles written in newspapers across Canada; participation of four major retailers, reaching over 5 million consumers.

Performance Plan — EnerGuide for Equipment and HVAC (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
	Number of *EnerGuide Appliance Directory* and *Energuide Directory of Room Air Conditioners* and other publications distributed.	Increase exposure of EnerGuide publications (print and on-line) to various target groups.	April 1999 to January 2000: 1-800 service dealt with 1713 calls, and put in orders for 15 412 publications covering eight separate titles. Many orders were from utilities who distribute EnerGuide literature.
	Number of EnerGuide sales kits distributed.	Increase number of retail outlets receiving EnerGuide sales kits and updates.	Distributed kits and updates (for when regulations change) to all major department stores and hundreds of independent retailers across Canada.
Introduction of Energy Star Endorsement Program in Canada.	Formalized participation of NRCan.	Finalize details of agreement with U.S. Environmental Protection Agency and U.S. Department of Energy in June 2000.	
	Recognition of program at Canada's Energy Efficiency Conference in October 2000.	Launch program in October 2000 at Canada's Energy Efficiency Conference.	
	Financial resources allocated to E-STAR promotion.	Allocate over $200,000 exclusive of salaries to E-STAR promotional efforts.	
EnerGuide HVAC Energy Efficiency Rating System.	Share of market covered by EnerGuide ratings in product brochures.	Increase share of market covered by manufacturers who post EnerGuide ratings in product brochure.	1997-98: Manufacturers who represent 96 percent of heating and cooling equipment market published EnerGuide ratings in their product brochures.

Performance Plan — EnerGuide for Equipment and HVAC (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
	Number of products covered by EnerGuide HVAC Energy Efficiency Rating System.	Publish gas fireplace label regulation. Initiate regulatory consultations on window label. Develop descriptor for domestic hot water label.	Negotiating addition of oil furnaces to rating program. Implementation delayed due to misunderstanding of test standard.
Promotional information on label.	Share of contractors receiving program brochures to help them promote benefits of higher efficiency HVAC equipment.	Increase share of contractors in marketplace who receive program brochures.	Approximately 10 000 brochures distributed through HRAI. Survey by March 31, 2000 to determine use and effectiveness of program brochures and toolboxes.
	Share of contractors receiving EnerGuide HVAC toolboxes to help them promote higher efficiency HVAC equipment.	Increase share of contractors in marketplace who purchase and use EnerGuide toolboxes.	December 1999: Distributed 400 toolboxes. Survey by March 31, 2000 to determine use and effectiveness of program brochures and toolboxes.
OUTCOMES			
Compliance with labelling requirements.	Percentage of labelling compliance.	Maintain 100 percent compliance for all prescribed products.	1997: Survey of retailers in four major Canadian cities showed 88 per cent compliance with labelling requirements.
EnerGuide encourages consumers to buy and manufacturers to make more energy-efficient household products.	Share of labelled models manufactured with unit energy consumption ratings that are 10 percent or better than regulated minimum standard (may also use sales data from Canadian Appliance Manufacturers Association).	Increase share of models manufactured with unit energy consumption ratings that are 10 percent or better than regulated minimum standard.	Share of appliance models with consumption ratings at least 10 percent better than minimum standard in 1997: • 31 percent of top-mounted refrigerator-freezers;

Performance Plan – EnerGuide for Equipment and HVAC (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
			• 35 percent of dishwashers and clothes washers; • 25 percent of standard dishwashers.
EnerGuide HVAC Energy Efficiency Rating System encourages consumers to buy and manufacturers to produce more energy-efficient heating, ventilation and air conditioning equipment.	Share of products sold in higher efficiency categories.	Increase share of gas products sold in higher efficiency categories (data available for only gas furnaces): • Non-condensing to 40 percent • Condensing to 60 percent	June 1996: • Non-condensing to 55 percent • Condensing to 45 percent December 1998: • Non-condensing to 60 percent • Condensing to 40 percent
	Capacity-weighted energy efficiency ratings of HVAC labelled products.	Increase capacity-weighted energy efficiency ratings (average) of HVAC products sold: • Annual fuel utilization efficiency (AFUE) to 87 by 2001 • Seasonal energy efficiency ratios (SEERs) for heat pumps and air conditioning (A/C) to 12 by 2001 (no data available on average size of systems)	June 1996: • Gas furnace AFUE: 84.80 • Heat pump SEER: 11.04 • A/C SEER: 10.57 December 1998: • Gas furnace AFUE: 84.99 • Heat pump SEER: 11.38 • A/C SEER: 10.64

Commercial Building Incentive Program (CBIP)

Objective

To improve the energy efficiency of new commercial and institutional buildings by changing design practices so that energy efficiency is routinely integrated into new buildings.

Description

CBIP provides financial incentives to eligible building owners who construct new commercial or institutional buildings that are 25 percent more efficient than similar buildings constructed to the *Model National Energy Code for Buildings* (*MNECB*). It offsets the incremental design costs associated with designing energy efficient buildings. CBIP supports training in energy-efficient design and the energy performance labelling of buildings. As well, it provides the proving ground for the next generation of building energy codes. It is delivered by the federal government and co-marketed by professional building organizations and building-product suppliers.

CBIP provides a one-time financial incentive equal to three times the difference between the estimated annual energy costs for an approved CBIP design and the estimated annual energy costs for an MNECB design. Initial payment is for 80 percent of the approved contribution upon provision of a qualifying design, with the remaining 20 percent paid upon receipt of proof of construction to design specifications. There is an $80,000 ceiling per project.

For large buildings, applicants must run their proposed design through CBIP-approved energy performance simulation software to calculate whether it meets the 25 percent qualifying level. For builders of small commercial buildings, CBIP provides prescriptive packages of energy efficiency improvements for specific types of buildings. When these improvements are included in the design, CBIP considers the design to meet the 25 percent qualifying level.

Launch Date

April 1, 1998

Budget, 2000–2001

$3.24 million

Performance Plan – Commercial Building Incentive Program (CBIP)

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Financial incentives for energy-efficient building design (25 percent better than MNECB).	Number of contribution agreements issued, buildings covered, and dollar value of incentives.	Additional contribution agreements covering 40 buildings totalling $1.967 million.	1999-2000: 33 signed agreements covering 33 buildings worth more than $1.7 million in incentive payments. Buildings are designed on average 35 percent better than Code (range is from 26 to 65 percent).
Training workshops and technical tools.	Number of workshops developed and implemented. Technical tools developed.	15 additional training workshops. Achieve training for 750 professionals. Develop one interactive, self-administered training CD-ROM.	12 training workshops held.
EE4 simulation software.	Number of users requiring OEE assistance to undertake simulation. Number of downloads of advanced version by OEE. Update and debug EE4 simulation software by OEE.	Reduce from current 100 percent rate. Increase. Make available updated and debugged version of EE4 (v1.23).	
OUTCOMES			
Construct highly energy-efficient commercial and institutional buildings.	Share of total building starts constructed 25 percent above energy code.	Eight percent of new construction more efficient than MNECB.	Surveys being designed to collect baseline data (i.e. energy/m^2) for existing and new buildings.
Groundwork laid for revisions to MNECB.	Changes to building code over time.	Raise MNECB levels 25 percent above levels of 1997 MNECB by 2005.	

Energy Innovators Initiative (EII)

Objective

To encourage commercial and institutional organizations to use energy efficiency investments to improve their productivity and reduce greenhouse gas emissions (GHGs).

Description

The Energy Innovators Initiative (EII) addresses the technical, financial, informational and organizational barriers that prevent investment in cost-effective energy efficiency projects in the commercial and institutional sectors. Energy Innovator organizations commit at the executive level to identify and implement energy efficiency investments, and prepare action plans for submission to Voluntary Challenge and Registry (VCR) Inc. In return, Innovators are assigned account managers within each of the retail, hospitality, office property, health care and education sectors. The account managers provide the Innovators with contracting, technical, financial and training services to help the Innovators identify, plan, implement and celebrate efficiency projects.

Account managers also work at the sectoral level through partnerships with the Canadian School Boards' Association, the Building Owners and Managers Association and nine other associations to identify barriers, develop sector-specific products and recruit Innovators.

Key program elements and outputs include:

- an incentive to fund up to 25 percent of the cost of a pilot energy efficiency project, which is then replicated across at least 25 percent of the Innovator's holdings;
- an action plan template and information-sharing Web site for colleges developed in conjunction with the Association of Canadian Community Colleges;
- benchmarking guides for the college, retail, hospitality, health care and school sectors to allow Innovators to measure their efficiency performance against similar entities;
- needs assessments in the education and health care sectors; and
- introduction of energy efficiency considerations into a "green" hotel rating guide.

Program results are measured by the collection of data from Innovators by account managers, by the provision of data through pilot projects and by annual evaluation studies.

Launch Date

March 1992

Budget, 2000–2001

$6.4 million

Performance Plan – Energy Innovators Initiative (EII)

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Pilot projects.	Number of projects approved.	No target as budget is insufficient to initiate new projects. All pilot monies are required for funding more than 30 projects initiated in 1999–2000.	48 retrofit projects approved (signed contributions).
Partnerships with associations.	Number of partnerships that provide sectoral recruitment and products.	11 association partnerships in seven sectors.	Nine association partnerships established in six sectors.
Training, promotion and information services.	• Number of Dollars to $ense workshops and attendees	Workshops: 37. Attendees: 300 from commercial and institutional sectors.	39 workshops. 247 attendees.
	• Percentage workshops scoring 80 percent satisfaction	Satisfaction: 80 percent.	
	• Percentage attendees intending to act on energy efficiency	Action: 80 percent.	
	• Number of sector-specific case studies	20 studies.	Four case studies published, six others written.
	• Number of publications sent. Reader satisfaction good to very good.	150 000 documents. 75 percent satisfied.	
Benchmarking and best practices guides.	Number of guides developed.	Two completed, three started.	Two guides completed, one ready for publication and one being reviewed.

Performance Plan — Energy Innovators Initiative (EII) (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES [percentages shown relate to the share of the total annual energy bill of the commercial and institutional sectors combined ($9.43 billion)*]			
Energy Innovators recruitment.	Share of Sector's energy bill recruited.	Increase: • Combined: by 4 percent to reach 30 percent • Institutional: by 4 percent to reach 40 percent • Commercial: by 3 percent to reach 25 percent	
Energy management plans.	Share of Sector's energy bill with energy management plans registered in VCR Inc.	Increase: • Combined: by 4 percent to reach 15 percent • Institutional: by 3 percent to reach 30 percent • Commercial: by 4 percent to reach 10 percent	
Energy efficiency projects.	Share of Sector's energy bill reporting projects.	Increase: • Combined: by 3 percent to reach 13 percent • Institutional: by 3 percent to reach 25 percent • Commercial: by 3 percent to reach 10 percent	

* the performance indicator uses percentage of energy bills of Sector captured, rather than absolute numbers, to focus attention on largest energy users first and to allow more meaningful measurement in face of organizational restructuring common in commercial, health care and educational sectors.

Performance Plan – Energy Innovators Initiative (EII) (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES [percentages shown relate to the share of the total annual energy bill of the commercial and institutional sectors combined ($9.43 billion)*]			
Energy efficiency projects.	Reported dollars and GHG savings.	New performance indicators to be developed. Currently, only 40 percent of Innovators report project data (outside of pilot projects).	
Energy use intensity.	Estimated change in energy use intensity (GJ/m^2) before and after retrofit projects.	Improve average energy use (GJ/m^2) by 20 percent in retrofitted space.	Energy intensity changes (GJ/m^2) of 19 percent as per clients' estimates to be verified through audits.

* the performance indicator uses percentage of energy bills of Sector captured, rather than absolute numbers, to focus attention on largest energy users first and to allow more meaningful measurement in face of organizational restructuring common in commercial, health care and educational sectors.

Federal Buildings Initiative (FBI)

Objective

To assist federal government departments and agencies to implement energy efficiency improvements to reduce greenhouse gas (GHG) emissions and operating costs.

Description

The Federal Buildings Initiative is designed to facilitate comprehensive energy efficiency upgrades and building retrofits for federal departments, agencies and Crown Corporations, through mechanisms such as public–private partnerships with energy management firms.

The FBI provides a full range of products and services required by an organization to implement comprehensive energy efficiency improvements. These include information, advice and consultation on organization readiness and project design, lists of energy management firms qualified to build projects, project financing options, a national network for energy management training, model tendering documents, and employee awareness products. FBI account managers work with departments from project inception, through contract development and award, celebration and recognition, and monitoring and tracking.

The FBI supports partnerships with energy management firms that provide a turn-key service which includes engineering, third-party private sector financing, comprehensive training packages and performance guarantees. The FBI model includes a third-party financing arrangement whereby:

- an energy management firm finances the project, installs new equipment and guarantees energy savings;
- the department pays its own (lower) energy bill; and
- the amount saved is paid to the energy management firm until the costs of the energy efficiency improvements are paid off.

The department never pays more than its pre-improvement energy bill and, after the costs of the improvements are paid off, the savings revert to the department. In some cases, energy savings are shared between the department and the firm during the course of the contract.

Program results are obtained from project data collected anually from departments and published in the federal government's annual report to the Voluntary Challenge and Registry (VCR) Inc., and from evaluations.

Launch Date

November 1991

Budget, 2000–2001

$749,000

Performance Plan – Federal Buildings Initiative (FBI)

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Project facilitation: workshops, advice, training and consulting services.	Federal energy efficiency prospects that qualify as projects.	15 to 20 qualified prospects.	
Marketing and promotion: scheduled program marketing, events and activities.	Events.	Four events.	
	Conferences.	Six conferences.	
	Media articles.	Four media articles.	
	Case studies.	15 case studies.	
	Web site.		
Program management: products and services to meet program and client needs.	Services and products.	Qualified Bidders List.	
	Maintenance and development.	Training products and services.	
	Program reporting.	Program replication.	
	Database development and maintenance.	Data tracking system.	
		Reporting.	
	Policy analysis.	Issue management and resolution.	
OUTCOMES			
FBI projects.	Number of FBI projects and federal buildings under energy management contracts.	Ten new FBI projects award contracts.	FBI is tracking more than 160 projects at various stages of implementation by 11 departments. Projects range from 1 to 650 buildings More than 5500 buildings are under energy management contracts.

Performance Plan – Federal Buildings Initiative (FBI) (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Private sector investment.	Private sector investment in FBI projects.	Increase by $10 to 20 million.	Estimated cumulative investment of $180 million.
Energy savings.	Annual energy cost savings.	$2.5 million.	
Reduced energy intensity.	Estimated energy intensity (GJ/m^2) before and after FBI retrofit projects.	Improve estimated intensity by 20 percent on average in facilities under FBI contracts.	Survey results expected in 2000–2001.
Reduced GHG emissions.	GHG emissions reduction.	Under development.	

Industrial Energy Efficiency — CIPEC and Industrial Energy Innovators Initiative

Objective

To help Canadian industry use energy efficiency investments to improve competitiveness and to contribute to Canada's climate change goals.

Description

There are two industrial programs: the Canadian Industry Program for Energy Conservation (CIPEC) and the Industrial Energy Innovators Initiative (IEII). CIPEC, a Sector-level program, and IEII, a company-level program, both address barriers to planning, implementing and tracking energy efficiency projects in industry. Key elements of both programs are:

- the establishment of energy efficiency improvement targets;
- the preparation of energy efficiency action plans;
- the tracking of energy efficiency improvements on a per-unit-of-production basis;
- the reporting of results; and
- the development and delivery of products and services which overcome barriers to continued energy efficiency improvements.

CIPEC relies upon the collective support and action of more than 30 trade associations representing over 90 percent of secondary industrial energy demand in Canada. Overall direction is provided by an executive board made up of CEOs and vice-presidents of some of the largest energy users in industry. CIPEC task forces in 23 sectors use events, publications, training sessions and networking to promote energy efficiency. Strong linkages exist with Voluntary Challenge and Registry (VCR) Inc. as CIPEC recruits participants to VCR Inc. and many CIPEC members are involved in VCR Inc.'s Board, Technical Advisory Committee and Council of Champions.

Through the two industrial initiatives, the OEE provides support services directly to individual organizations establishing energy efficiency programs. These services include assistance in energy management planning, tracking and regular reporting; workshops dealing with all aspects of energy management; and various technical, financial and information services.

Program results are measured through an annual energy consumption survey with Statistics Canada and through ongoing needs assessments.

Launch Date

1992

Budget, 2000–2001

$3.1 million

Performance Plan — CIPEC and Industrial Energy Innovators Initiative

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Program stimulation.	Number of CIPEC Executive Board meetings.	Two Executive Board meetings.	
	Number of CIPEC Task Force Council meetings.	Eight Task Force Council meetings.	
	Number of Energy Innovators.	Recruit 20 companies.	
	Task Force in upstream sector.	Recruit upstream sector to CIPEC.	
	IEI Service Package.	Have package in place.	
	Sector benchmarking initiatives.	Final benchmarking reports for cement, dairy, pulp and paper.	
		Draft aluminum benchmarking report.	
		Draft cross-cutting technology report.	
Industrial sector market research.	Data collection and tracking.	Data reports for 1999.	
	Energy efficiency Champion profiles.	Develop company assessment service.	
		Integrate profiles and assessment into workshops.	
	Dollars to $ense analysis.	Complete workshop evaluation.	
	Needs-based information.	Complete this research.	
Program promotion.	*CIPEC Annual Report.*	Distribute 4000 copies.	
	Heads Up CIPEC.	Publish 24 issues and distribute more than 2000 copies.	

Performance Plan – CIPEC and Industrial Energy Innovators Initiative (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
	Plant.	Publish 12 issues and distribute 30 000 copies.	
	Journal Industriel du Québec.	Publish 12 issues and distribute 10 000 copies.	
	Electric Business (*Energy Manager*).	Publish 6 issues and distribute 8000 copies.	
	CIPEC communications program.	Implement a CIPEC communication plan.	
Information development.	Industrial Energy Innovators energy efficiency opportunity (EEO) guidebooks.	Produce six EEO guidebooks extending reach to 41 percent of energy use.	
	Number of Dollars to $ense workshops.	250 participants in workshops, satisfaction level at 85 percent.	
	Number of general guidebooks.	Develop books for steel, lime, food processing, and general manufacturing sectors.	
OUTCOMES			
Sectoral energy efficiency task forces.	Number of task forces in place.	One new task force for 2000–2001. Focus efforts on existing task forces rather than recruit new ones.	April 1999: 21 March 2000: 23
	Number of task forces that establish energy efficiency improvement targets.	Three more task forces with targets.	January 2000: 20 task forces set targets of one percent per year for 1995 to 2000.
	Number of task forces with action plans.	Three more task forces with action plans.	January 2000: 20 task forces submitted action plans.

Performance Plan – CIPEC and Industrial Energy Innovators Initiative (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Market adopts new or better technologies that improve industrial energy intensity as soon as they become economic.	Percentage improvement in industrial energy intensity.	One percent overall improvement in industrial energy intensity per year through 2005.	From 1990 to 1998, overall industrial energy intensity improved 1.26 percent per year on average.
Participation and action by Industrial Energy Innovators.	Number of innovators signed up.	Seek 20 new companies. Focus efforts on existing Innovators rather than recruit new ones.	Cumulative number reflects company attrition or restructuring: 1997–98: 245 (+9) 1998–99: 249 (+9) February 2000: 251 (+12)
	Number of action plans developed.	20 new action plans.	Cumulative number reflects company attrition or restructuring: 1997–98: 182 (+5) 1998–99: 199 (+17) February 2000: 208 (+6)
	Number of progress reports received.	Obtain 94 progress reports.	Progress reports recieved annually: 1997–98: 57 1998–99: 76 February 2000: 64
Companies adopt new or better technologies that improve industrial energy intensity as soon as they become economic.	Improved energy efficiency as measured through industrial energy intensity changes over time.	Sector level targets are established through CIPEC, which is one percent per year through 2005.	Actual intensity change: 1.26 percent per year on average from 1990 to 1998.

Auto$mart

Objective

To improve the energy efficiency practices of private motorists through driver information.

Description

Auto$mart aims at influencing car purchase decisions, on-road driving practices and vehicle maintenance practices. The program offers specific information on energy-efficient ways to purchase, maintain and operate personal vehicles, and emphasizes how drivers can save fuel, save money and reduce vehicle emissions.

Through various kits, guides, information dissemination activities and strategic alliances with the public and private sectors, Auto$mart helps motorists understand how their automobile purchases, driving and maintenance habits affect the environment.

Auto$mart also supports private-sector initiatives to promote fuel efficiency. The program encourages energy-efficient and environmentally responsible decisions through dissemination of operation and maintenance information materials and through joint initiatives with public- and private-sector partners.

Launch Date

October 1994

Budget, 2000–2001

$800,000

Performance Plan – Auto$mart

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Auto$mart Student Driving Kit.	Number of driver kits distributed.	Distribute to 900 driver educators.	760 driver educators were using kit.
	Number of new drivers reached.	225 000 students.	188 000 new drivers attended Auto$mart Student Driver Training. Baseline survey will provide basis for potential reach.
Information dissemination.	Number of 1-800 calls, publications and visits to Web site. (Auto$mart and EnerGuide for Vehicles share same 1-800 line and Web site.)	Overall requests and use of Auto$mart and EnerGuide tools will be affected in 2000–2001 since no consumer-based information initiatives, other than novice drivers' training, will take place.	
		New targets: 1-800 calls: 4500.	1-800 line: Calls in 1999-2000 more than doubled to 13 445 from 1998-99, due in part to EnerGuide awareness campaign from January to March 2000.
		Publications: 550 000.	Publications: 1997-98: 340 000 1998-99: 640 000 1999-2000: 640 000
		Web site: 75 000 visits.	Web site: 1998-99: 50 000 user sessions 1999-2000: 210 000 user sessions

Performance Plan – Auto$mart (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Student drivers' awareness of program and role of vehicle maintenance practices, driving habits and vehicle purchase decisions on vehicle fuel efficiency.	Level of student driver awareness of program and vehicle fuel efficiency issues.	Increased awareness among driving population exposed to Auto$mart driver training courses	Monitor effects of student driver education through student survey in the summer of 2000.
Improvement of on-road fuel efficiency by population (including new drivers) that heard and applied Auto$mart tips.	Percentage of driving population reached through program who realize and sustain on-road fuel efficiency improvement.	Percentage of driving population who realize and sustain on-road fuel efficiency improvement.	Survey scheduled for 2001 (on three-year basis) postponed due to lack of funding. Will investigate possibility of adding quantitative and qualitative measurements in next baseline survey.
Retention of Auto$mart messages by former driver education students.	Level of retention of messages.	Increase retention of messages.	No survey is planned for 2000–2001. Pending additional funding, survey could be conducted one or two years after introduction to program materials, to determine retention of messages taught.

EnerGuide for Vehicles

Objective

To provide consumers with the opportunity to buy the most fuel-efficient light-duty vehicle that meets their needs.

Description

The program informs consumers about the fuel efficiency of new light-duty vehicles to help them buy the most fuel-efficient vehicle that meets their needs. Under a voluntary agreement, vehicle manufacturers affix an EnerGuide fuel consumption label to passenger cars, vans and light-duty trucks. The standardized label on the side window of each new vehicle shows the vehicle's city and highway fuel consumption ratings and estimated annual fuel cost. The annual *Fuel Consumption Guide*, available at vehicle dealerships and on the Internet, provides the same information for all motor vehicles. The annual EnerGuide Awards for the Most Fuel-Efficient Vehicles help make consumers aware of the model year's most fuel-efficient vehicles in each size class. The program works in close collaboration with Auto$mart, sharing the same Web site and 1-800 publication line.

Launch Date

April 1, 1998

Budget, 2000–2001

$820,000

Performance Plan — EnerGuide for Vehicles

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Awareness and promotion campaign.	Number of Canadians reached through advertisements in magazines.	Maximize reach within advertising budget.	1999–2000 campaign of $230,000 reached 8.1 million subscribers and readership of 12 million, through 17 magazines.
EnerGuide Label for Vehicles.	Number of participating manufacturers.	Ensure participation of all manufacturers.	The 1999–2000 survey revealed that all manufacturers participate (except for Ferrari, Rolls-Royce Canada Limited and Volvo Canada Ltd.)
Fuel Consumption Guide.	Timely production and distribution of Guide by new car dealers.	Complete production and distribution of 2001 model year edition by mid-November.	Model year 2000 completed on time.
	Number of guides distributed by dealers.	Increase distribution to 225 000 copies.	1999: 216 085 copies distributed by dealers.
EnerGuide Awards for the Most Fuel-Efficient Vehicles.	Participation of vehicle manufacturers and media at annual awards event.	Ensure participation of all winning vehicle manufacturers and maximize participation of media at event.	Six winning manufacturers and 18 media representatives participated in February 2000 event.
OUTCOMES			
Display of label on new vehicles on dealers' lots and in showrooms.	Number of new vehicles with label on dealers' lots and showrooms.	Increase level of display on dealerships' lots to 85 percent and in showrooms to 70 percent.	1999–2000 survey revealed that label was on 64 percent of vehicles on dealers' lots and 47 percent of vehicles in showrooms.

Performance Plan – EnerGuide for Vehicles (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Display and distribution of *Fuel Consumption Guide*.	Number of dealers displaying and distributing Guide.	Increase percentage of dealers distributing guide to 85 percent and displaying guide in showrooms to 75 percent.	1999–2000 survey indicated that 76 percent of dealers distribute guide but only 40 percent display it.
Awareness of program and its tools.	Level of public awareness of program and its tools.	Increase level of awareness of program and its tools by 10 percent.	March 2000 survey of Canadians revealed that 38 percent of respondents were aware of program or its tools. Note: No measurement survey is planned in 2000–2001.
	Number of Web site user sessions.	90 000 user sessions.	User sessions: 1998-99: 27 002 1999–2000: 105 471
Promotion of program tools.	Number of free media stories on program and its tools.	Maintain same level of media stories as in 1999–2000.	1999–2000: over 110 free articles or ads which reached over 24 million readers.
	Promotion of winning vehicles by vehicle manufacturers.	All manufacturers promote their winning 2001 model year vehicles.	All six winning manufacturers promoted their winning 2000 model year vehicles through a mix of media.

Performance Plan – EnerGuide for Vehicles (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Use of EnerGuide tools in new vehicle purchase decisions.	Reported use by Canadians of tools in purchase decisions.	Increase level of use of EnerGuide label, *Fuel Consumption Guide* and most fuel-efficient vehicles in new vehicle purchase decisions.	15 percent of respondents to March 2000 survey that purchased or leased new vehicles in previous three months used one of the program tools when making their decision. Note: No measurement survey is planned in 2000-2001.
Fuel efficiency as factor in consumer vehicle purchasing decisions.	Ranking of fuel efficiency among factors influencing vehicle purchase decisions.	Improve ranking of fuel efficiency among all factors influencing vehicle purchase decisions, from 1998 results.	Fuel efficiency ranked fourth in 1998 Auto$mart survey. Next survey to be conducted in 2001–2002.
	Percentage of Canadians influenced by program messages and tools.	Increase percentage of Canadians influenced by program.	81 percent of March 2000 survey respondents, who purchased or leased new vehicles in previous three months and who used EnerGuide information tools, said this information had impact on their vehicle purchase decision.
Improvement in fuel efficiency of new light-duty vehicle fleet.	Average new vehicle fleet fuel efficiency (L/100 km).	Target is existing company average fuel consumption (CAFC) standards (8.6 L/100 km for passenger cars and 11.4 L/100 km for light-duty trucks).	In 2000–2001, will establish baseline for average class fuel efficiency as well as best of class L/100 km.
	Sales mix shift by vehicle class towards more fuel-efficient vehicles.	Improvement towards best of vehicle class in future years.	In 2000–2001, will establish baselines sales indicator against which future vehicle sales per class will be analysed.

Vehicle Fuel Efficiency

Objective

To improve motor vehicle fuel efficiency, including introducing fuel efficiency technologies in new vehicles.

Description

The Vehicle Fuel Efficiency Initiative, based on the earlier Motor Vehicle Fuel Consumption Program (MVFCP) initiated in the mid-1970s, encourages motor vehicle manufacturers to meet voluntary annual company average fuel consumption (CAFC) targets for new automobiles sold in Canada. The *Motor Vehicle Fuel Consumption Standards Act* was passed by Parliament in 1981, but not proclaimed since Canadian vehicle manufacturers offered to meet the targets on a voluntary basis. The manufacturers have met the program objectives.

In late 1995 and early 1996, NRCan signed a memorandum of understanding (MOU) with domestic and international vehicle manufacturers to renew and expand the MVFCP. This MOU provides the framework for a working relationship with industry through the Government Industry Motor Vehicle Energy Committee (GIMVEC) to find opportunities to improve both new vehicle and on-road (operational) vehicle fuel efficiency, and to promote fuel efficiency to vehicle buyers and users.

Under this initiative, Transport Canada (TC) administers the monitoring and compliance described in the *Motor Vehicle Fuel Consumption Standards Act*, including the collection of annual data on the fuel efficiency of new vehicles. This data is used by both NRCan and TC to:

- monitor manufacturer compliance with CAFC targets;
- support publication of the annual *Fuel Consumption Guide*, which lists fuel consumption ratings for new vehicles;
- support the EnerGuide for Vehicles Program and the annual EnerGuide Awards for the Most Fuel-Efficient Vehicles; and
- assess trends in new vehicle fuel efficiency and specific technology.

This initiative is managed by NRCan in cooperation with TC and the motor vehicle industry. NRCan is responsible for analysis and policy development, as well as consumer information and awareness activities.

Launch Date

1976 (Initial Program)

Fall 1995 (new memorandum of understanding)

Budget, 2000–2001

$385,000

Performance Plan – Vehicle Fuel Efficiency

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Agreement with vehicle manufacturers on motor vehicle fuel efficiency and management of GIMVEC Secretariat.	Manufacturer participation in GIMVEC, its subcommittees and activities.	Increase participation of manufacturers in jointly sponsored activities and new commitments.	Minutes of GIMVEC reflect decisions and new actions.
Submission of fuel consumption data by vehicle manufacturers.	Number of manufacturers submitting complete and timely data.	100 percent submission rate and timely submission of data.	TC is reviewing options to mandate submission of data.
Management of NRCan's Vehicle Information System (VIS) database.			The VIS database was completely reviewed and updated over 1999–2000.
Analysis of vehicle fuel efficiency and technology trends.	Completion of analysis of light-duty vehicle fuel efficiency (1979 to 1998).	Complete report by spring 2000.	
Agreement with U.S. Department of Energy on motor vehicle fuel efficiency and collaborative efforts.	Amount of collaborative research.	Increase number of joint meetings and collaborative projects.	In 1999–2000 OEE met twice with U.S. officials, leading to collaborative study on fuel economy to be undertaken in 2000–2001.

Performance Plan – Vehicle Fuel Efficiency (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Improvement in fuel efficiency of new light-duty vehicle fleets.	Fuel consumption (L/100 kms) for new light-duty vehicles.	Current target is based on existing CAFC standards. During 2000–2001, negotiations will begin with vehicle manufacturers on voluntary agreement to improve by 2010 average fuel efficiency of new vehicles and fleets by 25 percent from current standards.	Since improvements early in program, there has been little or no improvement in average fuel efficiency of new cars and fleets. Due to increased market share of light-duty trucks, average fuel efficiency of new truck fleets has worsened. 1998 combined average fuel consumption was highest since 1986.
Compliance by vehicle manufacturers with CAFC Standard for new light-duty vehicles.	CAFC for passenger cars.	8.6 L/100 kms for passenger cars (standard was set in 1978 and revised in 1985 to current level).	Almost all companies met car CAFC in 1998. Six companies that represent two percent of total new car sales did not meet standard. 1998: average actual CAFC was 8.0 L/100 kms for passenger cars.
Compliance by vehicle manufacturers with CAFC Standard for new light-duty trucks.	CAFC for light trucks.	11.4 L/100 kms for light trucks (set in 1990, revised in 1995 to current level). Target is to have almost all companies representing 75 percent or more of the market meet truck CAFC for model year 2001.	In 1998, four companies representing 37 percent of total new truck sales did not meet Standard. 1998: average actual CAFC was 11.4 L/100 km for light trucks.

FleetSmart

Objective

To improve the fuel efficiency of non-federal government vehicle fleets.

Description

FleetSmart aims to improve the fuel efficiency of, and the use of alternative fuels in, non-federal vehicle fleets. It provides information materials, workshops, technical demonstrations and driver training programs to help fleet operators assess and pursue opportunities to increase energy efficiency in their operations. NRCan delivers FleetSmart in partnership with fleet and industry associations and other levels of government.

The program helps fleet operators assess opportunities to reduce the fuel consumption of their fleets. The short-term objective of the program is to recruit participants and improve NRCan's statistical understanding of energy use by fleets. The long-term objective is to work with individual fleets to help them achieve fuel efficiency improvements and to develop benchmarks for the fuel efficiency of the movement of goods.

Launch Date

April 1997

Budget, 2000–2001

$960,000

Performance Plan – FleetSmart

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
SmartDriver training.	• Number of trainers delivering SmartDriver.	• All trainers in Canada, approximately 4000.	• 558 trainers annually use SmartDriver material to train approximately 53 000 drivers.
	• Number of drivers trained.	• 440 000 drivers in all regions across Canada.	
FleetSmart tool kits.	Number of tool kits distributed.	Distribute tool kit to all FleetSmart clients and partners on demand.	1096 tool kits distributed since program launched.
Energy use data and fleet segment profiles.	Quality of data and number of fleet segment profiles obtained.	Start to obtain data from fleets in order to develop framework to establish benchmarks for fuel consumption by fleet vocation and utility category.	Distributed 5000 case studies and fleet profiles to FleetSmart clients. Completed survey of vehicle operators at 279 school boards. Will undertake initial benchmark survey for class 7 and 8 vehicles in 2000–2001 to help establish industry benchmarks.
Energy management workshops.	Number of workshops.	Conduct workshops on demand in all regions of Canada.	Seven workshops in 1999–2000.

Performance Plan — FleetSmart (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Recruitment of commercial fleets.	Number of fleets registered in program. Number of visits on Fleet$mart Web site. Number of publications advertising Fleet$mart.	Register all fleets that contact OEE.	578 fleets representing over 122 332 commercial vehicles have registered with program to date.
OUTCOMES			
Improvement in fuel efficiency of commercial vehicle fleets by vocation (forestry, construction, etc).	Litres per tonne-kilometre by vocation and city corridors.	Benchmarks will be established per city corridors and vocation. Fleets will be able to compare performance.	Annual survey by city corridor, vocation and fleet utility. The first benchmark survey focused on truck classes 7 and 8, and 22 city corridors across Canada.
Improvement in average fuel efficiency of all commercial vehicle fleets.	Average fuel use (litres per tonne-kilometre).	Fleets will be able to compare performance.	No measurement framework exists yet.

FleetWise

Objective

To assist federal departments to increase the energy efficiency of their motor vehicle fleets, and to promote the *Alternative Fuels Act* within the federal fleet.

Description

The FleetWise program helps the managers of federal fleets to improve their operational (including energy) efficiency and accelerate the use of alternative fuels to meet:

- the federal objective of reducing 1995 levels of vehicle greenhouse gas (GHG) emissions by 30 percent by 2000;
- the Greening of Government energy and environmental goals; and
- the vehicle acquisition requirements of the *Alternative Fuels Act* and Treasury Board of Canada Secretariat's Motor Vehicle Policy.

The program provides fleet managers with an assessment of fleets at low-to-zero cost, campaigns to encourage vehicle operators to select alternative fuels, and provides technical advice on alternative fuels and alternative fuel vehicles. Four departments plan and report on the program: Treasury Board of Canada Secretariat, NRCan, Environment Canada and Public Works and Government Services Canada. NRCan is responsible for implementing the program.

Launch Date

October 1995

Budget, 2000–2001

$175,000

Performance Plan – FleetWise

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Support for *Alternative Fuels Act*	Number of requests for assistance with Q-Tool assessment product to determine eligibility for use of alternative fuels.		Requests: 1998-99: 10 1999-2000: 11
Advice on fleet energy efficiency, vehicle procurement and alternative fuels.	Number of requests received. Issues of FleetWise newsletter.		• Requests: 1998-99: 77 1999-2000: 180 • Newsletters: 1998-99: two 1999-2000: one
Monitor and report on federal fleet operations.	Number of vehicles in federal fleet.	Fewer vehicles in federal fleet.	Vehicles: 1995-96: 24 854 1997-98: 22 796 1998-99: 21 898 1999-2000: report due September 2000.
	Kilometres travelled per vehicle.	Increase average annual kilometres per vehicle.	Average annual kilometres: 1995-96: 24 707 1997-98: 22 732 1998-99: 22 001 1999-2000: report due September 2000.

Performance Plan – FleetWise (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
	Total fuel used.	Reduce total fuel used by fleet.	Energy content of fuel used: 1995–96: 3.0 PJ 1997–98: 2.6 PJ 1998–99: 2.2 PJ 1999–2000: report due September 2000.
New vehicle purchases meet requirements of *Alternative Fuels Act* where cost effective and operationally feasible.	*Alternative Fuels Act* requires certain percentage of new motor vehicles purchased each year to be alternative fuel vehicles where cost effective and operationally feasible.	1997–98 : 50 percent 1998–99 : 60 percent 1999–2000: 75 percent 2000– : 75 percent	After tests for cost effectiveness and operational feasibility, results showed: • 1997–98: 45 vehicles eligible, 131 vehicles added – 191 percent over target • 1998–99: 126 vehicles eligible, 161 vehicles added – 23 percent over target • 1999–2000: report due September 2000.
Improve average fuel efficiency of gasoline and diesel powered vehicles in federal fleet.	Average tested fuel efficiency of light duty vehicles in federal fleet (using city–highway fuel consumption data published in *Fuel Consumption Guide*).	Improvement in average fuel efficiency of new light-duty vehicles.	• 1995–96: 14.6 L/100km • 1997–98: 14.8 L/100km • 1999–2000: not measured

Performance Plan – FleetWise (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
	Average in-use fuel efficiency of light duty vehicles in federal fleet (as determined by gross fuel purchases and kilometres driven).		• 1995–96: 18.0 L/100km • 1997–98: 16.2 L/100km • 1999–2000: report due September 2000.
Reduced emissions from federal fleet.	CO_2 equivalents produced by federal fleet.	30 percent reduction in motor vehicle fleet CO_2 output between 1995 and 2000.	Estimated CO_2: • 1995–96: 210 000 tonnes • 1997–98: 178 000 tonnes • 1998–99: 166 000 tonnes • 1999–2000: report due September 2000.
Continue improving average fuel efficiency of federal fleet and increase use of alternative fuels.	Fleet average fuel consumption per unit distance travelled.	Achieve sustainable annual CO_2 level 30 percent below base levels.	Energy consumed per kilometre: • 1995–96: 4.9 MJ/km • 1997–98: 5.0 MJ/km • 1999-2000: not measured.
	Use of alternative fuels as percent of total annual fuel used by federal fleet.		Percent use of alternative fuels: • 1995–96: 0.01 percent • 1997–98: 0.02 percent • 1999–2000: not measured.

Future Fuels Market Analysis

Objective

To promote the development and use of alternative and future fuels in Canada through policy analysis; joint projects with stakeholders and governments; and initiatives to reduce market barriers for new vehicle technologies and a refuelling infrastructure.

Description

This initiative encourages the development, production and use of alternative and future vehicle and fuels technologies. Alternative transportation fuels (ATFs) include propane, natural gas, alcohols, electricity and hydrogen. The initiative provides support to fleet operators in the public and private sectors through economic and market studies; emissions and safety assessments; market demonstrations; communications and awareness activities; and general and technical information about fuel options in Canada. The initiative sponsors workshops with industry and other governments to review market, technical and policy issues.

Launch Date

January 1994

Budget, 2000–2001

$220,000

Performance Plan – Future Fuels Market Analysis

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Technical and economic information to industry and private sector.	Response to inquiries.	Continue to promote ATF market opportunities, strategic policy and analytical tools.	Not yet available.
Support to climate change road transportation policy and analytical process.	Development of models for analysis of full fuel cycle emissions and policy measures.	Continue to maintain and update analytical models.	Models used for Climate Change Transportation Table studies on vehicles and fuels, and for further policy development.
Participation in the Canadian Council of Ministers of Environment (CCME) working group on fuels and British Columbia Cleaner Technology Vehicle Task Force.	Coordinated policy and program approach to ATFs by federal and provincial departments.	Provide advice on standards setting for vehicles and fuels, and obtain input on ATF policy development.	New vehicle emissions standards that allow new engine technologies into Canadian market. Supportive federal and/or provincial fiscal regime for alternative and future fuels.
OUTCOMES			
Propane used in vehicles.	Volume of propane sales for vehicles.	Encourage manufacturers to offer original equipment manufactured (OEM) vehicles.	Propane use: 1997: 28.2 PJ 1998: 27.2 PJ 1999: Not yet available
Ethanol used in gasoline.	Volume of ethanol blended into gasoline.	• Increase amount of fuel ethanol blended into gasoline (no target as there are no program funds).	Amount of fuel ethanol blended into motor gasoline each year: 1997: 40 ML 1998: 60 ML 1999: 175 ML

Performance Plan – Future Fuels Market Analysis (cont.)

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Domestic production capacity of fuel ethanol.	Canadian ethanol production capacity (millions of litres per year.)	• Increase ethanol production capacity (no target as there are no program funds).	Amount of fuel ethanol production capacity: 1997: 30 ML 1998: 39 ML 1999: 164 ML
Retail outlets selling ethanol.	Number and location of stations.		Number of ethanol blend stations: 1997: 700 1998: 929 1999: 1000
Sustainable market for alternative and future fuels and vehicles.	Annual sales of alternative and future transportation fuels and vehicles.	Self-sustaining annual growth in use of alternative and future transportation fuels and vehicles.	Trends show that use of propane is declining, natural gas vehicle (NGV) is stable and ethanol is increasing.

Natural Gas for Vehicles (NGV) Program

Objective

To promote the development and use of natural gas in Canada.

Description

The Natural Gas for Vehicles (NGV) Program applies to regions of Canada serviced by Alberta natural gas. It provides contributions of $2,000 for each factory-built natural-gas vehicle; $500 for road vehicles converted to use natural gas; a contribution to help foster new refuelling outlets; marketing and awareness activities; and co-funded research and development. The incentives are sourced from the Market Development Incentive Payments (MDIP) fund, which was created in the early 1980s with receipts from Alberta's upstream natural gas producers for the purpose of expanding markets.

Launch Date

Renewed February 1, 1999. Will operate until January 31, 2002.

Budget, 2000–2001

$95,000 (excludes incentives, which come from MDIP fund)

Performance Plan – Natural Gas for Vehicles (NGV) Program

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Increased awareness of natural gas for vehicles option.	Level of awareness by target market.	The Canadian Natural Gas Vehicle Alliance delivers this component of their program. Their strategic marketing plan is provided for under their yearly contribution agreement.	Annual report from Canadian NGV Alliance describes progress.
More effective program.	Increased interest in vehicle conversions and new vehicle purchases.	Revamped program in place by fall 2000.	
Grant applications processed.	Number of new OEM vehicle grants.	2500 OEM vehicle purchases from February 1,1999 to January 31, 2002.	1998–99: no program 1999–2000: 64 new vehicles
	Number of vehicle conversion grants.	1000 vehicle conversions from April 1, 1999 to January 31, 2002.	1998–99: no program 1999–2000: 293 conversions
	Number of vehicle refuelling station grants.	Output is demand-driven until refueling station budget of $500,000 is depleted.	1998–99: no program 1999–2000: three requests
OUTCOMES			
Increased use of natural gas as automotive fuel.	Natural gas used by vehicles.	Output is demand-driven.	Natural gas for vehicles: 1996: 2.22 PJ 1997: 2.55 PJ 1998: 2.68 PJ 1999: in development
Sustained market for natural gas fuels and vehicles in specific regions.	Annual sales of natural gas transportation fuels.	Self sustaining annual growth in use of natural gas transportation fuels and vehicles.	
	Annual sales of natural gas vehicles.		

OEE Corporate Strategy

Objective

To increase awareness of the Office of Energy Efficiency (OEE) as a one-stop service on energy efficiency at home, at work and on the road.

Description

The aim of the corporate strategy is to create awareness of the Office of Energy Efficiency. The primary target audiences are business, associations, media and all levels of government. The OEE vision statement is "*Leading Canadians to Energy Efficiency at Home, at Work and on the Road.*" The OEE promotes energy efficiency through a variety of communication and marketing tools such as advertising, newsletters, special events, media relations, promotional items and fact sheets. These tools support all OEE programs and initiatives.

Launch Date

April 1998

Budget, 2000–2001

$693,000

Performance Plan – OEE Corporate Strategy

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
OEE awareness advertising campaign.	Number of advertising placements in key business magazines and trade journals.	20 placements.	29 placements.
Media relations activities.	Number of members of media contacted.	300 contacts.	350 contracts.
	Number of media events organized.	15 events.	5 events.
Production and distribution of OEE newsletter, *OEE News*.	Number of newsletters printed (four issues per year).	20 000 (5000 per issue).	10 000 newsletters.
OUTCOMES			
Greater awareness of OEE programs.	Number of information requests received through e-mail, 1-800 line and Web site.	350 requests.	216 requests.
Increased media coverage of OEE activities.	Number of media articles about OEE and its programs.	75 media reports.	25 media reports.
Increased awareness of merits of energy efficiency and the OEE – its programs, data and policy analysis capabilities.	Benchmark measurements through reader survey.	Quantitive feedback: 400. Qualitative feedback: 25.	Established benchmarks – 400 quantitative and 25 qualitative.

Public Information

Objective

To increase awareness of energy efficiency and to encourage Canadians to use energy more efficiently at home, at work and on the road.

Description

The OEE promotes energy efficiency through a variety of communication and marketing tools, such as publications, exhibits, a calendar, a toll-free line and the OEE Web site. These tools support all OEE programs and initiatives and cover topics related to energy efficiency for all sectors of the economy. The OEE offers more than 1000 free publications on energy efficiency and alternative transportation fuels.

Launch Date

1991

Budget, 2000–2001

$780,000

Performance Plan – Public Information

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Design, produce, warehouse and distribute consumer-related publications.	Number of publications printed.	To be set by August 2000.	
Design, produce and distribute "Energy and Environment" 2001 calendar.	Number of calendars printed.	165 000 calendars.	
Design, produce and distribute OEE order form *Info Source*.	Number of *Info Source* printed.	To be set by July 2000.	
Review and maintain OEE corporate Web site, including Virtual Library.	Number of visitors to Web site and virtual library.	149 000 and 11 905, respectively.	
	Number of OEE consumer publications available on-line.	75 publications available on-line.	
OUTCOMES			
Consumers order OEE publications.	Number of requests for information and published materials.	To be set by August 2000.	
	Number of enquiries through 1-800 line for information on energy efficiency.		
Increased knowledge of energy efficiency and greenhouse gases (GHGs).	Indicators being developed.	To be set by August 2000.	
Increased knowledge of OEE program.	Number of visits to OEE Web site that navigate to OEE program sites.	To be set by August 2000.	
Increase in electronic information dissemination.	Indicators being developed.	To be set by August 2000.	

Energy Efficiency Conference and Awards

Objectives

- To facilitate the sharing of knowledge related to energy efficiency between governments, the private sector and non-governmental organizations;
- To position Canada's energy efficiency efforts in the global energy efficiency context;
- To identify, recognize and promote technological and program achievements in the area of energy efficiency;
- To highlight policies, programs and technologies that can help individuals or organizations to increase their energy efficiency; and
- To increase the understanding of the role of energy efficiency in addressing climate change.

Description

The OEE organizes and hosts Canada's Energy Efficiency Conference for individuals and organizations that are involved in energy efficiency in Canada and around the world – including representatives from the residential, institutional, commercial, industrial and transportation sectors; Canadian and foreign governments; energy producers and utilities; environmental and non-governmental organizations; researchers; students; and the media.

The conference includes guest speakers, plenary sessions, concurrent sessions, poster sessions and visits to local sites that demonstrate energy-efficient practices. Always part of the conference are a trade show and the presentation of Canada's Energy Efficiency Awards. The awards, which recognize Canadian innovation and achievement in energy efficiency, are presented in eight categories: equipment and technology, housing, buildings, industry, transportation (on-road), outreach, media and a student competition. Sponsorship opportunities are available to interested organizations.

Launch Date

April 1998

Budget 2000-2001

$1,992,000

Performance Plan – Energy Efficiency Conference and Awards

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Develop and organize conference, awards, trade show and technical events.	Number and/or quality of plenary speakers, concurrent sessions, exhibits, technical events, awards program and ceremony.	Five plenary speakers, 20 concurrent sessions, debate, trade show, awards ceremony, six technical events, eight award categories, 19 sub-categories. Award nominations processed efficiently and on timely basis.	
Produce and distribute conference, awards and trade show promotional material.	Number, timeliness and quality of promotional products.	High-quality products produced on timely basis: • Awards direct mail brochure • Trade show brochure • Conference direct mail brochure and conference program	
Hospitality and space rental.	Number of dinners, lunches, breaks and receptions.	One dinner, two lunches, four breaks, two receptions.	
	Number of conference rooms rented at Ottawa Congress Centre and Ottawa Weston.	15 rooms; high-quality facilities, food, beverages, services.	
All other activities (including media relations and sponsorship solicitation).	Number of firms contacted for sponsorship, media contacts solicited and media kits distributed.	Contact 400 firms for sponsorship, contact 100 media firms, distribute 500 kits.	

Performance Plan – Canada's Energy Efficiency Conference and Awards

Description	Indicator	Target March 2001	Results March 2000
OUTCOMES			
Client satisfaction.	Level of satisfaction of: • attendees • exhibitors	Rate event as high quality: • 75 percent of attendees • 75 percent of exhibitors	
Attendance at conference, awards, trade show, poster sessions, Web site visits.	Number of: • paid registrations • booths rented • award nominations • award finalists • award winners • students attending • poster sessions Attendance at: • technical sites • concurrent sessions • plenary session • awards ceremony	 • 375 registrations • 87 booths • 264 nominations (50 percent increase) • 38 finalists • 19 winners • 40 students • 50 poster sessions by 25 students • 94 delegates visit sites • 50 delegates for each concurrent session • 75 percent of delegates attend plenary • 600 attend awards ceremony	
High-quality materials.	Degree of delegates' satisfaction with publications.	75 percent of attendees rate content and look of publications as comprehensive and high quality.	
Client satisfaction with meals and conference and awards space.	Degree of delegates' satisfaction with meals and space.	75 percent of attendees rate meals and conference and awards location as very good.	
Coverage by media, participation in sponsorship program.	Sponsorship revenues (in-kind and cash). Dollar value of media coverage.	$162,000 cash sponsorship revenues. $12,000 in-kind sponsorship revenues. $115,000 worth of media coverage.	

Climate Change – Public Education and Outreach

Objective

To increase awareness and understanding of climate change and to encourage early action to address this issue.

Description

The Government of Canada introduced a three-year, $150-million Climate Change Action Fund (CCAF) in the 1998–99 federal budget. The CCAF allocated $30 million to a Public Education and Outreach (PEO) program – $10 million per year for three years – to inform Canadians about climate change and motivate behaviour change among Canadians in communities, schools, businesses and industry.

The PEO program is led by Environment Canada but delivered in cooperation with the OEE. The program has two main components: an information component to build awareness and understanding of climate change; and a funding component to support projects that emphasize early action to address this issue.

Launch Date

1998

Budget, 2000–2001

$463,000
(excludes CCAF funds managed by this Business Activity)

Performance Plan – Climate Change – Public Education and Outreach

Description	Indicator	Target March 2001	Results March 2000
OUTPUTS			
Development and implementation of climate change outreach, communications strategies and plans.	Strategies and plans.	Communications strategy – June 2000.	
	Government of Canada advertising.	Quarterly NewsCanada editions; advertising activ-aities – fall/winter 2000.	
	Events and announcements.		
	Government of Canada climate change Web site activity and feedback.	Redeveloped Government of Canada climate change Web site – August 2000.	
	NRCan climate change Web site activity and feedback.	Redeveloped Web site – October 2000.	
	Number of climate change publications distributed.		
NRCan co-management of CCAF's PEO fund.	Sectoral strategies developed and approved.	Planning and completion of business plan for CCAF funding extension to 2004 – September 2000.	
	Number of projects reviewed/approved.	PEO Phases 6 and 7 – completed August 2000.	
	Number of projects managed by NRCan.		
OUTCOMES			
Increased awareness and understanding of climate change and willingness to take action.	Results of public opinion research.		EKOS Research Associates Inc.'s survey results – October 2000. COMPAS business leaders survey – November 2000.
CCAF support for energy efficiency activities with OEE target audiences.	Outcome of projects that build on and enhance Departmental activities.		PEO Progress Report –June 2000. Mid-year assessment – September 2000.